

california state university fullerton 1977-79 CATALOG

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THIS CATALOG

Within this catalog may be found general academic and administrative information as well as specific descriptions of the departments, their majors and the courses offered in each. The first major part contains orienting information such as the calendar, materials on The California State University and Colleges, an overview of Cal State Fullerton and facts about student services and activities on the campus.

The subsequent sections of the catalog are concerned with: admission, registration, records and regulations; academic advisement; and university courses. The next sections, organized by schools and divisions, describe the departments and the programs of study and courses they offer. The final part of the catalog contains directories: a listing of individuals and groups participating in the governance of the university and with information on advisory councils, auxiliary organizations, and the faculty and administration. An index can be found at the end to help the reader locate specific items he needs or wishes to know about.

Because this catalog must be prepared well ahead of the academic year it covers, changes in some programs and rules occur. The *Class Schedule* and subsequent errata sheets are the final authority in regard to classes offered, instructors and revisions of regulations. This publication can be bought for a small fee from the Titan Bookstore.

Through the assistance of the Department of Art, Greg Campbell has done the graphic work on this catalog. Gant Eichrodt was responsible for the photography. The final organizing and editing was done by Carol Savage in the Office of Academic Administration, and Ruth Pecsok and Jerry Keating in the Office of Public Affairs.

NOTICE

The Board of Trustees of The California State University and Colleges, in Section 43800 of Title 5 of the California Administrative Code, has reserved the right to add, amend or repeal any of its regulations, rules, resolutions, standing orders, and rules of procedures in whole or in part, at such time as it may choose. None shall be construed, operate as or have the effect of an abridgement or limitation of any rights, powers or privileges of the Trustees. The chancellor reserves the right to add, amend or repeal any of his executive orders, at such time as he may choose, and the president of California State University, Fullerton reserves the right to add, amend or repeal provisions of this catalog and rules of the university, including handbooks, at such time as he may choose. No executive order shall be construed, operate as, or have the effect of an abridgement or limitation of any rights, powers or privileges of the chancellor nor shall any catalog provision or rule of the university be construed, operate as, or have the effect of an abridgement or limitation of any rights, powers, or privileges of the president.

Every effort has been made to assure the accuracy of the information in this catalog. Students are advised, however, that such information is subject to change without notice. Therefore, they should consult the appropriate instructional departments, schools or administrative offices for current information. Effective date: August 29, 1977.

NONDISCRIMINATION ON THE BASIS OF SEX

The California State University and Colleges does not discriminate on the basis of sex in the educational programs or activities it conducts. Title IX of the Education Amendments of 1972, as amended, and the administrative regulations adopted thereunder prohibit discrimination on the basis of sex in education programs and activities operated by California State University, Fullerton. Such programs and activities include admission of students and employment. Inquiries concerning the application of Title IX to programs and activities of California State University, Fullerton may be referred to Everett Winters, the campus officer assigned the administrative responsibility of reviewing such matters or to the regional director of the Office of Civil Rights, Region 9, 760 Market Street, Room 700, San Francisco, California 94102.

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general information



CAL STATE FULLERTON CALENDAR FOR 1977–78

1977

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1978

CLASSES

HOLIDAYS

SUMMER SESSION 1977

June 6, Monday.....Twelve weeks of instruction begin. Registration and classes

July 4, Monday.....Independence Day holiday—campus closed

August 1, Monday.....Filing period opens for applications to the spring semester 1978

August 26, Friday.....Summer session instruction ends; effective date of graduation for those completing requirements.

FALL SEMESTER 1977

November 1, 1976

Initial period for filing applications for admission to the fall semester 1977 began for all new students and former students not in attendance during the spring semester 1977.

August 29, Monday.....Academic year begins. Advisement, orientation and registration begin. See *Class Schedule* for details

September 2, Friday.....Last day to register without late registration fee. Application deadline for baccalaureate degree candidates for graduation, June 1978 and August 1978, and for January 1978 master's degree candidates to request a graduation check

September 5, Monday.....Labor day holiday—campus closed

September 6, Tuesday.....Instruction begins

September 9, Friday.....Admission Day—campus open

September 13, Tuesday.....Rosh Hashanah—campus open

September 22, Thursday.....Yom Kippur—campus open

October 10, Monday.....Columbus Day—campus open

November 1, Tuesday.....Filing period opens for applications to the fall semester 1978

November 11, Friday.....Veterans' Day—campus open

November 24–25, Thursday—Friday..Thanksgiving recess—campus closed

December 16, Friday.....Last day of classes

December 19, Monday.....Examination study day

December 20–23, Tuesday–Friday.....Semester examinations

December 24, Saturday.....Winter recess begins

January 3, Tuesday.....Winter recess ends. Semester ends; effective date of graduation for those completing requirements. All grade reports due.

SPRING SEMESTER 1978

August 1, 1977

Initial period for filing applications for the spring semester 1978 begins for all new students and former students not in attendance during the fall semester 1977.

January 19, Thursday ..... Semester begins. Departmental and faculty meetings through Friday, January 20

January 23, Monday ..... Advisement, orientation and registration begin. See *Class Schedule* for details

January 27, Friday ..... Last day to register without late registration fee. Application deadline for baccalaureate degree candidates for graduation January 1979, and for June 1978 and August 1978 master's degree candidates to request a graduation check

January 30, Monday ..... Instruction begins

February 13, Monday ..... Lincoln's Birthday holiday—campus open

February 20, Monday ..... Washington's Birthday holiday—campus closed

March 20, Monday ..... Spring recess begins

March 27, Monday ..... Instruction resumes

April 6, Thursday ..... Martin Luther King, Jr., Memorial Observance Day—campus open

May 19, Friday ..... Last day of classes

May 22, Monday ..... Examination study day

May 23–26, Tuesday-Friday ..... Semester examinations

May 27, 28, Saturday, Sunday ..... Commencement exercises

May 29, Monday ..... Memorial Day holiday—campus closed

May 30–31, Tuesday, Wednesday ..... Grade reporting

June 1, Thursday ..... Semester ends. Effective date of graduation for those completing requirements. End of academic year. All grade reports due.

SUMMER SESSION 1978

June 5, Monday ..... Twelve weeks of instruction begin. Registration and classes

July 3–4, Monday–Tuesday ..... Independence Day holiday—campus closed

August 25, Friday ..... Summer session instruction ends; effective date of graduation for those completing requirements.

CAL STATE FULLERTON CALENDAR FOR 1978–79

1978

JUNE							JULY							AUGUST							SEPTEMBER						
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OCTOBER							NOVEMBER							DECEMBER							JANUARY						
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1979

CLASSES

HOLIDAYS

SUMMER SESSION 1978

June 5, Monday.....Twelve weeks of instruction begin. Registration and classes

July 3, 4, Monday–Tuesday .....Independence Day holiday—campus closed

August 1, Tuesday.....Filing period opens for applications to the spring semester 1979

August 25, Friday .....Summer session instruction ends; effective date of graduation for those completing requirements.

FALL SEMESTER 1978

November 1, 1977

Initial period for filing applications for admission to the fall semester 1978 begins for all new students and former students not in attendance during the spring semester 1978.

August 28, Monday.....Academic year begins. Advisement, orientation and registration begin. See *Class Schedule* for details

September 1, Friday .....Last day to register without late registration fee. Application deadline for baccalaureate degree candidates for graduation, June 1979 and August 1979, and for January 1979 master's degree candidates to request a graduation check

September 4, Monday .....Labor day holiday—campus closed

September 5, Tuesday .....Instruction begins

October 2, Monday .....Rosh Hashanah—campus open

October 9, Monday .....Columbus Day—campus open

October 11, Wednesday .....Yom Kippur—campus open

November 1, Wednesday .....Filing period opens for applications to the fall semester 1979

November 10, Friday .....Veterans' Day holiday—campus open

November 23–24, Thursday–Friday ....Thanksgiving recess—campus closed

December 15, Friday .....Last day of classes

December 18, Monday .....Examination study day

December 19–22, Tuesday–Friday .....Semester examinations

December 23, Saturday .....Winter recess begins

January 2, Tuesday .....Winter recess ends. Grade reporting

January 3, Wednesday .....Semester ends; effective date of graduation for those completing requirements. All grade reports due.

SPRING SEMESTER 1979

August 1, 1978

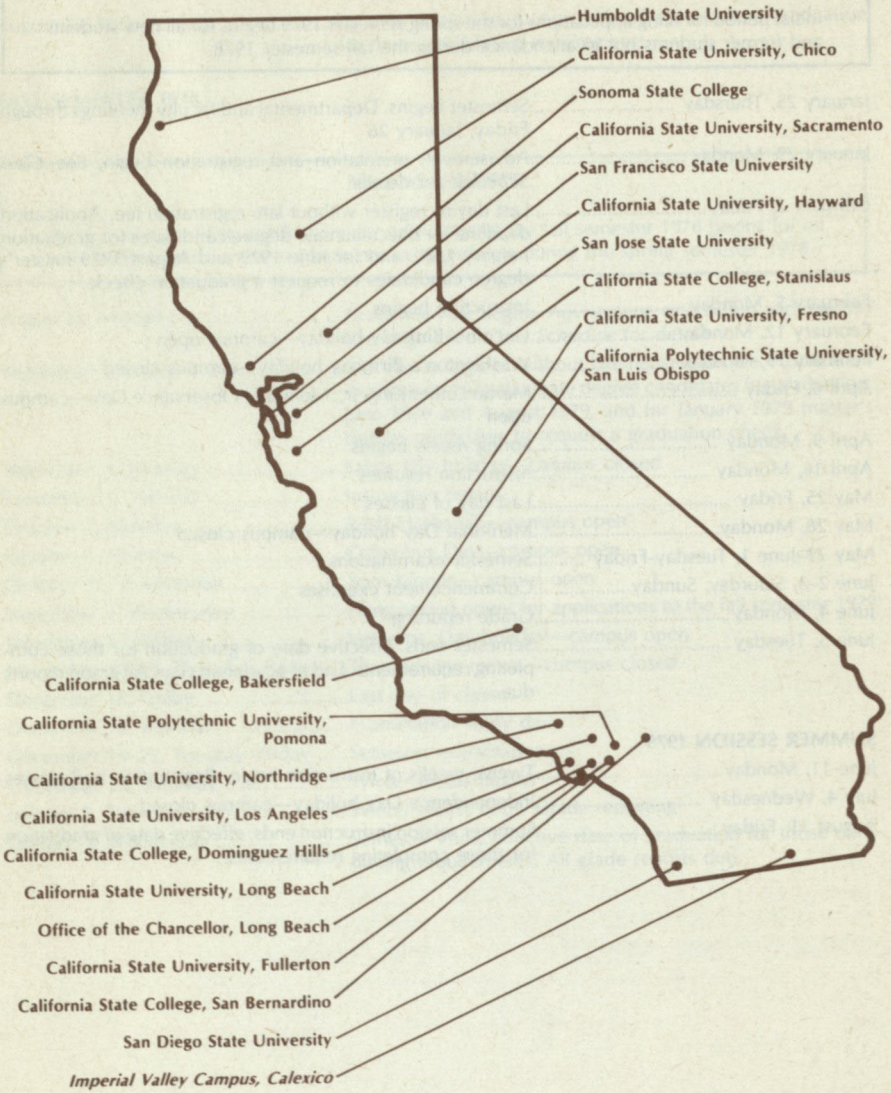
Initial period for filing applications for the spring semester 1979 begins for all new students and former students not in attendance during the fall semester 1978.

January 25, Thursday	Semester begins. Departmental and faculty meetings through Friday, January 26
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February 5, Monday	Instruction begins
February 12, Monday	Lincoln's Birthday holiday—campus open
February 19, Monday	Washington's Birthday holiday—campus closed
April 6, Friday	Martin Luther King, Jr., Memorial Observance Day—campus open
April 9, Monday	Spring recess begins
April 16, Monday	Instruction resumes
May 25, Friday	Last day of classes
May 28, Monday	Memorial Day holiday—campus closed
May 29–June 1, Tuesday-Friday	Semester examinations
June 2–3, Saturday, Sunday	Commencement exercises
June 4, Monday	Grade reporting
June 5, Tuesday	Semester ends. Effective date of graduation for those completing requirements. End of academic year. All grade reports due.

SUMMER SESSION 1979

June 11, Monday	Twelve weeks of instruction begin. Registration and classes
July 4, Wednesday	Independence Day holiday—campus closed
August 31, Friday	Summer session instruction ends; effective date of graduation for those completing requirements.

THE CALIFORNIA STATE UNIVERSITY AND COLLEGES



The individual California State Colleges were brought together as a system by the Donohoe Higher Education Act of 1960. In 1972 the system became The California State University and Colleges and 14 of the 19 campuses received the title *University*.

The oldest campus—San Jose State University—was founded in 1857 and became the first institution of public higher education in California. The newest campus—California State College, Bakersfield—began instruction in 1970.

Responsibility for The California State University and Colleges is vested in the Board of Trustees, whose members are appointed by the governor. The trustees appoint the chancellor, who is the chief executive officer of the system, and the presidents, who are the chief executive officers on the respective campuses.

The trustees, the chancellor and the presidents develop systemwide policy, with actual implementation at the campus level taking place through broadly based consultative procedures. The Academic Senate of The California State University and Colleges, made up of elected representatives of the faculty from each campus, recommends academic policy to the Board of Trustees through the chancellor.

Academic excellence has been achieved by The California State University and Colleges through a distinguished faculty, whose primary responsibility is superior teaching. While each campus in the system has its own unique geographic and curricular character, all campuses, as multipurpose institutions, offer undergraduate and graduate instruction for professional and occupational goals as well as broad liberal education. All of the campuses require for graduation a basic program of "General Education-Breadth Requirements" regardless of the type of bachelor's degree or major field selected by the student. A limited number of doctoral degrees are offered jointly with the University of California.

Presently, under the system's "New Approaches to Higher Education," the campuses are implementing a wide variety of innovative programs to meet the changing needs of students and society. Among pilot programs under way are instructional television projects, self-paced learning plans, minicourses, and credit-by-examination alternatives. The Consortium of The California State University and Colleges fosters and sponsors local, regional, and statewide external degree and certificate programs to meet the needs of individuals who find it difficult or impossible to attend classes on a campus.

Enrollments in fall 1976 totaled approximately 300,000 students, who were taught by a faculty of 17,000. Last year the system awarded over 53 percent of the bachelor's degrees and 34 percent of the master's degrees granted in California. Almost 600,000 persons have been graduated from the 19 campuses since 1960.

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CAL STATE FULLERTON: AN OVERVIEW

GOVERNANCE

Governance on the campus level at California State University, Fullerton is the responsibility of the president and his administrative staff. Working closely with the president are a number of faculty and student groups which initiate, review, and/or recommend for approval, various university programs, policies, and procedures. Although the president is vested with the final authority for all university activities, maximum faculty and staff participation in campus decision-making and governance have become traditional. Students also are becoming more actively involved, with student representatives now being included on almost all university, school, and departmental committees and policy-making bodies.

ADVISORY BOARD

The California State University, Fullerton Advisory Board consists of community leaders interested in the development and welfare of the university. The board advises the president on a number of matters, particularly those affecting university and community relations. Members are appointed by the president for terms of four years.

PHILOSOPHY AND OBJECTIVES

The institutions of higher learning disseminate and advance knowledge. The philosophy which guides an institution can limit or promote the successful achievement of these objectives. Therefore, from its inception, Cal State Fullerton has consciously endeavored, through its educational program, to enhance the fullest possible development of those it serves. For both professors and students this entails a commitment to high standards of scholarship, to a comprehensive rather than a narrow approach in major areas of study, and to a concern with research and other creative activity.

The university believes that if it is to be enduring, an educational experience must include exploration of one's cultural heritage through basic studies in the liberal arts and sciences. At the same time, it should include preparation for success in a chosen occupation or profession. Accordingly, the required general education program has as its objective the development in each student of:

1. The effective use and interpretation of the written and spoken language.
2. An understanding of the range and interrelationships of human endeavor and accomplishments in liberal arts and sciences, as well as the various choices and values they represent.
3. An understanding of information and principles in some areas of the liberal arts and sciences in sufficient depth to encourage critical and creative thought and expression.
4. A spirit of inquiry into the past and future, so as to better cope with conditions in the continually changing world.
5. An understanding of the rights, privileges and responsibilities of citizenship in the community and nation, and of effective participation in today's world.

In addition, the university requires all students who are candidates for a degree—whatever their special purpose—to pursue a subject major.

RETROSPECT AND PROSPECT

In 1957 Cal State Fullerton became the 12th State College in California to be authorized by the Legislature. The following year a site was designated in northeast Fullerton. It was purchased in 1959, when Dr. William B. Langsdorf was appointed as founding president, when the first staff was selected and when plans for opening the new college were made. Orange County State College started classes for 452 full- and/or part-time students in September, 1959, using leased quarters for its administrative offices on the Fullerton Union High School campus and for its classrooms at Fullerton's Sunny Hills High School. In the fall of 1960, the college opened classes on its own campus, where it occupied 12 temporary buildings. The name changed to Orange State College in July, 1962, to California State College at Fullerton in July, 1964, to California State College, Fullerton in July, 1968 and to California State University, Fullerton in June, 1972. The first permanent building, the six-story Letters and Science Building, was occupied in 1963.

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Today, there are many dramatic evidences of additional, rapid growth. Ten large and modern permanent buildings have been completed, and enrollment has climbed to approximately 22,000. Since 1963 the curriculum has expanded to include lower division work and many graduate programs. More than $60 million already has been invested in land, buildings and equipment—a sum expected to increase appreciably by the 1980's when the university is due to reach its projected peak enrollment of nearly 27,000.

The Donahoe Higher Education Act of 1960 established the California State Colleges as a system under an independent Board of Trustees, redefined the functions of the State Colleges, and related them to both the community colleges and the University of California system. Cal State Fullerton was the first of the State Colleges to submit and secure approval for a five-year master curricular plan and one of the first three to secure approval of a master building plan. It also was able to think in terms of its ultimate enrollment objectives from the beginning.

On May 26, 1971, Dr. L. Donald Shields, who had served as acting president for seven months, was appointed the second president of Cal State Fullerton. Under his leadership, the university is reevaluating and improving the functions it serves in higher education even as it also is developing more effective working relationships with the community.

THE HUMAN AND NATURAL ENVIRONMENT OF THE UNIVERSITY

Fullerton a city of approximately 90,000 inhabitants, is located in northern Orange County, about 30 miles southeast of central Los Angeles. It is in the center of the new Southern California population center and within easy freeway access of all the diverse natural and cultural attractions of this region.

Orange County, with an area of 782 square miles, is the 48th in size of California's 58 counties, but it is second largest county in population (1.6 million), and in total personal income. Orange County has experienced during the last 20 years almost unprecedented growth as communities continue to occupy the diminishing expanses of open land.

Today, there co-exists an interesting mixture of the old and new economic and life styles in Orange County. Underneath the soil, archeologists and bulldozers uncover traces of the hunting and gathering Indian bands which flourished at least as early as 4,000 years ago in what was a benign and bountiful region. More visible traces remain of the Spanish and Mexican periods and cultures: Mission San Juan Capistrano, which began the agricultural tradition in Orange County, and subsequent adobes from the great land grants and ranches that followed. Additionally, both customs and many names persist from this period, and so does some ranching. The architectural and other evidences of the subsequent pioneer period are still quite visible: farmsteads, old buildings from the new towns that then were established in the late 1800's, mining operations, and traces of early resort and other types of promotional activities. For about 100 years, farming was the main economic activity with products such as grapes, walnuts, vegetables, and increasingly oranges, replacing the older wheat and cattle ranches. Today, agriculture still is very important. Orange County ranks high among California's counties in mineral production with its oil, natural gas, sand and gravel, and clay mining and processing activities.

The extensive development of the 42 miles of beaches in Orange County and the development of such attractions as Disneyland, Knott's Berry Farm, the Laguna Festival of Arts and Pageant of Masters, and the Anaheim Stadium and Convention Center continue to make tourism an increasingly important activity. So does the Mediterranean-type climate with: rainfall averaging 14 inches per year; and generally mild days (with either freezing or 100-degree temperatures uncommon) with frequent morning fogs during the summer. Both downtown Los Angeles and the Pacific Ocean can be reached by car in half an hour, and mountain and desert recreation areas are as close as an hour's drive from the campus.

THE CAMPUS AND ITS BUILDINGS

Once part of a vast orange grove, Cal State Fullerton's attractively landscaped campus now consists of 225 acres bounded on the south by Nutwood Avenue, on the west by State College Boulevard, on the north by Yorba Linda Boulevard and on the east by the Orange Freeway.

The portion of Orange County immediately surrounding the campus is predominantly suburban; it includes housing tracts, apartment complexes, shopping centers, space-age industrial firms and still remaining orange groves and undeveloped hills and fields.

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Other educational institutions also are part of the immediate environment. The new campus of the Southern California College of Optometry, with its four modernistic buildings, opened in the spring of 1973. It is just north of Cal State Fullerton. To Cal State's immediate south is Pacific Christian College, a liberal arts school with a Bible emphasis, where students started classes in the fall of 1973. The Western State University College of Law, California's largest law school, occupied its new campus to the immediate west of Cal State in January, 1975.

The Cal State Fullerton campus itself has a high density urban layout of buildings and facilities developed to serve a predominantly commuting public. The university's modern buildings were planned so that no student should need more than 10 minutes to go from one class to another. The campus is surrounded with landscaped parking facilities.

Even though most of the campus has been devoted to modern buildings, facilities for athletic activities, parking lots or attractively landscaped areas, there still remain over 20 acres of the original orange grove, land of which will become an arboretum within the next few years. Several older buildings also remain, including one which has been converted into the attractive University Club and another into the Foundation headquarters.

The first permanent building, the Letters and Science Building, was occupied in 1963. This imposing structure, master planned to serve ultimately as a facility for undergraduate and graduate science instruction and research, has been used to house other programs until they could warrant new facilities of their own.

Since 1963, growth has been rapid. The Music-Speech-Drama Building was completed in 1964, the Physical Education Building in 1965, the Library Building in 1966, the Commons cafeteria facility in 1967, the Humanities-Social Sciences Building and Art Center in 1969, and William B. Langsdorf Hall (Administration-Business Administration) and the Engineering Building in 1971, and the Student Health Center in 1974. Langsdorf Hall and the Engineering Building reflect a commitment to programs with high community involvement. In addition to the many undergraduate students who study and learn in these buildings, many professional engineers and local businessmen also use these very advanced facilities to continue their educations.

New buildings are being built and others are being planned to keep pace with university enrollment increases. The Education-Classroom Building and the University Center (Student Union) were completed for use in fall 1976. Next on the construction schedule is an addition to the Visual Arts Center.

Planned for the northeast corner of the campus is a 20-acre Arboretum planned to be ready for use in the fall of 1978. It will include a 15-acre contoured botanical garden, a three-acre organic garden and a two-acre experimental plot. The ecologically arranged floras will depict habitat from the desert to the tropics. Upon completion, the Arboretum will include Heritage House, a 19th-century dwelling currently being restored. Plans call for Heritage House to serve as a cultural museum for North Orange County as well as an Arboretum office. The basic Arboretum facility should be completed by spring 1978.

The ample freeway and surface street accommodations that approach the main entrance to the university's modern campus also provide comparatively easy access to the great and diverse learning resources available in Southern California: many other colleges and universities; museums, libraries, art galleries; zoos; and the wide variety of economic governmental, social, and cultural activities and experiments that may be found in this dynamic and complex region of California and the United States.

STUDENTS OF THE UNIVERSITY

Much of the distinctive character and learning atmosphere of any campus comes from the nature and vitality of its students. Diversity, the synthesis of academic with work and family interests, strong high school records, and relative maturity are some of the predominant characteristics of the student body at Cal State Fullerton. The enrollment grew rapidly from 1963 to 1975 and reached nearly 22,000 in each of the past two years.

The university is a commuter institution. Less than one percent of the students live in university-affiliated housing. Twenty-four percent work 35 hours or more a week, and yet nearly 52 percent take 12 or more units of coursework each semester. Seventy-three percent come from a radius of 15 miles from the campus, but many have lived elsewhere before coming to Orange County.

Twenty-six percent are lower division students, 50 percent are university juniors and seniors, and

another 24 percent are doing post-baccalaureate or graduate work. Over seven-eighths of the upper division students are transfers from other institutions, principally community colleges. Fifty-four percent are men, and the median age is 24. Forty-six percent are women, and the median age is 23. Thirty-four percent are married. One-fourth of the students participate in both the day and evening programs during the regular semesters and 17 percent are involved only in the late afternoon or evening program.

Many students already have clearly defined disciplinary, professional and artistic interests. Thirteen percent have not declared an academic major and are in the process of exploring different fields of knowledge. For the past three or four years most of the undergraduates have searched for more meaningful vocations and corresponding employment opportunities upon completion of degree programs. Most are trying to understand themselves and their world so that they can become more effective human beings and citizens.

THE FACULTY

Central to the effectiveness of any institution of higher learning is the quality and dedication of its faculty. Cal State Fullerton is proud of the high caliber of its faculty and of the commitments of its individual faculty members to teaching and scholarship.

In the fall of 1976 there were 725 full-time and 495 part-time faculty members teaching on the campus. For the full-time faculty members, the median age was 39 and almost all had some previous college or university teaching experience before coming to Fullerton. Faculty members also have a wide variety of experiences and accomplishments in research, the arts, professional work, consulting and other creative activities. Seventy-four percent of the full-time faculty have earned their doctorate degrees, and these have come from more than 100 major colleges and universities.

Criteria for selection to the faculty include mastery of knowledge in an academic specialty, demonstrated skill and experience in teaching, and continuing interest in scholarly study and research. Retention and promotion criteria also include service to the university and to the community.

FACULTY DEVELOPMENT CENTER

The goals of the Faculty Development Center are to foster faculty excellence and to provide services for those faculty who believe their own teaching, instructionally related research and other professional activities may benefit from various kinds of instruction with their colleagues.

The director of the Faculty Development Center may be contacted at the Center.

ACADEMIC INSTRUCTION

The university offers a full four-year program of freshman through senior work as well as credential programs for teachers and graduate, master's level work in many disciplines and professional fields. The university provides a diversity of educational opportunities to satisfy the broad range of backgrounds and interests of its students. Over 4,000 courses have been developed to provide learning from introductory to highly specialized, in-depth and advanced, work in a wide variety and growing number of fields of study.

Fullerton currently awards the baccalaureate degree in 41 fields of knowledge. More advanced work and the master's degree are awarded in 36 programs. Many of the baccalaureate and master's degree programs offer a choice of specializations (or options or emphases). Additionally, at least a few courses are given in many fields or subject matter areas in which some other colleges and universities offer full degree programs. Such an interdisciplinary trend fits not only with broader, cultural integration of knowledge but also with the recent development of a growing number of interdisciplinary efforts, including some new degree programs, at Fullerton.

Certain traditions have developed with the academic programs at Cal State Fullerton. One is that of relative balance in strength of the programs in the physical sciences, the social sciences, the humanities and the fine arts. Another is that of academic excellence in the various specializations offered by the university and the comparative freedom given to departments and professional schools to develop the depth programs for their majors. Still other tendencies include the encouragement of: a diversity of approaches to teaching; experimentation and innovation in courses and programs; and student participation in curricular planning and decision-making. The university is tightening its general education and breadth requirements program to guarantee that students are prepared in the basic subjects and gain experience in a variety of carefully selected disciplines.

ACCREDITATION

Cal State Fullerton is fully accredited by the Western Association of Schools and Colleges. Specific programs have been accredited by the American Assembly of Collegiate Schools of Business, the American Chemical Society, the American Council on Education for Journalism, the American Speech and Hearing Association, the Engineers' Council for Professional Development, the National Association of Schools of Art, the National Association of Schools of Music, the National Assocation of Schools of Theater, the National Council for Accreditation of Teacher Education and the Board of Directors of the National Athletic Trainers Association. Cal State Fullerton is a member of the Council of Graduate Schools in the United States and the Western Association of Graduate Schools.

SCHEDULE OF CLASSES

The regular, educational program of the university is offered continuously from 8 a.m. until 10 p.m. Monday through Friday. The *Class Schedule,* listing all classes meeting during these hours, is prepared for each semester and can be purchased at the Titan Bookstore.

The classes held during the late afternoon and evening hours are part of the regular university program. Students enrolling in these classes must have met all admission requirements of the university, including the filing of an official application for admission, the filing of complete official transcripts from other schools, colleges and universities and in the case of lower-division applicants, the completion of required tests for admission.

The classes which are offered during the summer sessions and by means of extension do not require admission to the university, but some courses do require specific prerequisites. Special schedules are provided for the summer sessions and extension programs.

CONTINUING EDUCATION—SUMMER SESSION

The summer session is designed to meet the needs of students who are interested in the enrichment of their educational background as well as completing requirements for a degree or credential. Summer session courses are the equivalent of university courses offered in the fall and spring semesters, and apply toward graduation and residence requirements as well as a teaching credential requirements. Both day and evening classes are scheduled. Some courses have prerequisite requirements which students must meet. Master's degree work is also offered.

Also offered are wide varieties of course durations; with a number of two- and three-week workshops, intensified courses, and expanded eight-week courses. In addition to much of the regular curriculum, summer offerings include many unique and innovative programs for teachers and other professional groups.

A summer session class schedule is usually available by March, and may be obtained by writing the Office of Continuing Education. This schedule contains information on matters such as costs, courses and registration procedures.

Admission to the Summer Session

Although the quality of the program and most of the course offerings are the same as in the regular session, the university does not require transcripts from students registering for credit courses in the summer session. However, students are expected to have satisfied the prerequisites for the course in which they register. Admission to summer session does not grant admission to the regular session. Admission to the summer sessions is completed at registration.

Authorized Student Load

A normal full-time program of study in the summer session is 1⅓ units of coursework per week of instruction. There is no limit to the number of units a person may take in the summer session.

CONTINUING EDUCATION—EXTENSION PROGRAMS AND SERVICES

The resources of Cal State Fullerton are made available through extension programs to those who are unable to take university work in residence but who wish to pursue university-level study for purposes of resuming an interrupted or incompleted education, to enhance professional or vocation-

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al abilities, or for personal growth and fulfillment.

Extension offerings include regularly established university courses as well as courses, workshops, and conferences designed to meet the needs of particular groups and communities, and may be initiated at various times during the year. Any adult may enroll in an extension course; *it is not necessary to be enrolled in the university.*

The maximum extension credit which will be accepted toward baccalaureate degrees is 24 semester units. Nine semester units of extension credit may be applied toward a master's degree with appropriate approvals. Extension credit may not be used to fulfill the minimum residence requirements for graduation.

Veterans may use the educational benefits available to them under federal and state laws to enroll in university extension courses provided the classes are part of their prescribed and recognized objectives as approved by the Veterans Administration.

For information about establishing an extension course, or for current offerings, write or telephone the Office of Continuing Education.

INTERNATIONAL PROGRAMS

The California State University and Colleges (CSUC) offers opportunities for students to pursue their studies at a distinguished foreign university or special program center. Under the auspices of the CSUC Office of International Programs, participants in this program are concurrently enrolled at their home campus, where they earn academic credit and maintain campus residency, and at an overseas institution of higher education.

Cooperating universities abroad include the University of Provence, France; the Universities of Heidelberg and Tubingen, Germany; the University of Tel Aviv and Hebrew University of Jerusalem in Israel; the University of Florence, Italy; the Universidad Ibero-Americana, Mexico; the Universities of Granada and Madrid, Spain; the University of Uppsala, Sweden; Lincoln University College of Agriculture and Massey University, New Zealand; and Waseda University of Japan. In the United Kingdom, cooperating universities (which may vary from year to year) include, among others, Aberdeen, Dundee, Edinburgh, Bangor, Heriot-Watt, Leicester, London, Manchester, Nottingham, Oxford, Liverpool, Lampeter, Sheffield, and Strathclyde. In addition, CSUC students may attend a special program in Taiwan, Republic of China, or an architecture program in Copenhagen, Denmark.

Elibibility for application is limited to those students who will have upper division or graduate standing by September 1978 at a CSUC campus; who have demonstrated the ability to adapt to a new cultural environment; and, who, in the cases of France, Germany, Mexico, and Spain, will have completed at least two years of college-level study in the language of instruction at the host university, or possesses equivalent knowledge of the language. At the time of application, students must have a minimum cumulative grade-point average for all college-work of 2.5 except for the programs in Israel, New Zealand, and the United Kingdom where a minimum g.p.a. of 3.0 is required. Selection is competitive and is based on home campus recommendations and the applicant's academic record. Final selection decisions are made by a statewide committee of faculty members, except for the program in New Zealand and the United Kingdom where final selections are made by the respective host universities.

The Internatial Programs supports all tuition and other academic and administrative costs overseas for each of its participants to the same extent that such funds would be expended to support similar costs in California. Students assume costs for predeparture orientation, insurance, transportation, housing, and meals. Home campus registration and other fees and personal incidental expenses or vacation travel costs while abroad are also paid by the student. Nonresident students are subject to nonresident fees. The Office of International Program collects and administers funds for those items which the program must arrange or can negotiate more effectively, such as home campus fees, orientation costs, insurance, outbound transportation, and, in some centers, housing. International Programs participants may apply for any financial aid available at their home campuses, except for campus work-study.

Applications for the 1978–79 academic year must be submitted before February 10, 1978, except for New Zealand and the United Kingdom. Applicants for the New Zealand program must be submitted by May 12, 1978, for participation during calendar year 1979. (The academic year in New Zealand begins in February and ends in October.) United Kingdom applications must be submitted by January 6, 1978.

Detailed information and application materials may be obtained from the International Education

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Office. Further information also may be obtained by writing to the California State University and Colleges International Programs, 400 Golden Shore, Suite 300, Long Beach, California 90802.

INSTRUCTIONALLY RELATED SERVICES

The university provides an extensive program of instructionally related services for its students and faculty. These include the universitywide services of the university Library, the Instructional Media Center, Academic Advisement, Learning Assistance Resource Centers, and the Computer Center described in the following sections. Three offices, Academic Programs, Academic Resource Planning and Analysis, and Institutional Research, make studies on university programs and assist in coordinating, planning educational operations and sharing information on educational trends and innovations on the Fullerton campus with those going on elsewhere.

The Library

The Library is housed in a six-story building completed in 1966 which faces the main Quad. It houses a well-rounded collection of books, periodicals, documents, microforms, phonorecords and other materials selected through the joint efforts of faculty and librarians to support the graduate and undergraduate programs of the university. In addition to the general collections, in-depth collections designed to support instructionally-related research have been created and developed over nearly two decades.

The main card catalog is in the center of the first floor lobby. Library staff at the adjacent information desk assist with the use of the catalog and provide other information on access to the Library's materials.

The reference desk on the third floor is the focal point for instruction in finding needed materials, using the microform and copy machines, signing up for carrels, or finding out what the Library has in various areas.

The books and periodicals are on the floors above, arranged on open stacks in Library of Congress classification order. Government publications, phonorecords and tapes, and curriculum laboratory materials are grouped in special areas for convenient use, as are the special collections of rare and unique volumes and other items. Study areas are located throughout the building.

Introduction to the use of the Library is provided through general tours which are offered at the beginning of each semester, and specialized tours and lectures which are given as requested by faculty. The Library offers courses in bibliographic research as a regular part of the curriculum.

The book collection will include approximately 475,000 volumes by 1978, increasing at the rate of 25,000–30,000 volumes per year. The Library currently subscribes to close to 5,000 periodicals and newspapers and has some 30,000 volumes of bound periodicals, which are supplemented by extensive microform holdings in backfiles of periodicals and of local, national and international newspapers, representing over 10,000 titles. The Library will have about 175,000 items in its selective depository of U.S. government documents by 1978. The documents area also contains California documents depository and League of Nations, United Nations, and foreign documents collections.

In addition to the many items available on this campus, the collections of all the California State Universities and Colleges and of the University of California, Irvine, Fullerton College, and other local specialized colleges and universities are accessible to students and faculty through mutual use agreements. Interlibrary borrowing arrangements expand the number of volumes accessible into major universities throughout the country.

Learning Centers

Under the administrative guidance of an all-university board, there are two centers at present.

Located on the fourth floor of the Library Building, a Learning Assistance/Resource Center (LARC) is for all university students who need to bring about improvement in their present learning skills, particularly in the areas of reading, writing, computation and study skills. This center also serves as a resource center, containing special study materials, collateral textbooks and taped programs that supplement regular course offerings. Individual tutoring is available to students after their needs have been properly assessed through LARC on request and through faculty or peer counselor referrals. All tutors are first selected on the basis of ability in their particular area of concentration. Prior to tutoring, they are assigned to a series of education courses designed to give the prospective tutor a greater understanding and awareness of the nature of his role in the learning process.

There is a Science Learning Center on the second floor of the Science building which is available for use by the campus community upon approval by the staff of the center.

Instructional Media Center

The Instructional Media Center, located in the lower level of the Library building, includes both extensive audiovisual and instructional television services.

Services to the faculty and students include encouragement and use of all types of audiovisual equipment and materials, rental of films from major rental libraries, and for faculty: production of transparencies, charts, graphs, diagrams, audiotapes and cassettes, tele-lectures plus all types of still and motion picture photography. Instructional television services include distribution of off-the-air or videotaped programs from master control to selected classrooms, videotaping facilities and playback both in the studio or classroom and off the campus.

The center is responsible for the coordination and development of instructional applications of media, and the improvement of programs and materials designed for instructional use. Liaison and service relations are maintained with other media learning-oriented units on the campus. Personnel of the center are prepared to assist the faculty in their analysis of media needs as related to the procurement or production of materials pertinent to instructional development.

Computer Center

The Computer Center, located on the second floor of Langsdorf Hall, serves as the central computing facility for all of the university. As the central campus computing facility, it provides support for instruction, research and administrative computing services.

The computing system at Fullerton is integrated into the State Distributed Computer Network which provides a wide range of computing services. The campus computer is a CDC 3150 with 64,000 words of memory, card reader, card punch, two high speed tape drives, two high speed printers and disk drives. Also available is a local PDP $11/_{45}$ timesharing computer which supports 32 terminals. As a component of the network, the Computer Center can communicate with a large-scale dual CDC 3300 Computer, two CDC 3170's and a Cyber 173 timesharing computer located at the Division of Information Systems in Los Angeles. Keypunch, teletype terminals, a sorter and an interpreter for student use are available in an open shop area located in the Computer Center.

In the School of Mathematics, Science and Engineering, the Computer Science Department offers both the B.S. and M.S. degrees in Computer Science. Many other departments, including Sociology, Geography and Accounting, use the computer facility in their coursework. Students' jobs receive the highest priority of all work batch-processed on the CDC 3150. The Computer Center maintains a library of application programs for general use. Such languages offered by the system include FORTRAN, COBAL, ALGOL, BASIC and COMPASS (the assembly language for CDC).

Office of Institutional Research

The Office of Institutional Research serves as an information center and a problem-solving agency which collects, interprets and disseminates information. These data include enrollment histories and projections, distributions of data according to selected factors (e.g., level, type of instruction, unit value), summaries of student characteristics, and other statistics related to student population, course offerings and resources. Most of the data collection and analysis is related to the reporting requirements of The California State University and Colleges and other agencies. However, the office evaluates data, provides assistance in design of specialized studies and also conducts analytic studies to serve the decision-making and policy-formulating needs of Cal State Fullerton.

Office of Academic Programs

The Office of Academic Programs is responsible for coordinating the development of educational programs; providing an all-university perspective on educational activities at the campus; and stimulating academic innovations. The office also is responsible for providing leadership for the cross-school programs (non-degree programs: Interdisciplinary Center, technological studies; degree programs: Special Major, B.A., M.A.). The office provides administrative assistance and coordination with all-university pilot proposals for special funding by the Chancellor's Office and for minigrants to support innovative projects.

Particular responsibilities include leadership with the Curriculum Committee, the General Education Committee, the Committee for Educational Development and Innovation, the Faculty Development Center, and other individuals and groups concerned with changing and improving the educational

programs of this institution. Responsibilities relating to the Chancellor's Office include regular review and updating of the Academic Master Plan; Cal State Fullerton Coordination of program performance review; and staff reports for the Chancellor's Office relating to academic planning.

Office of Academic Resource Planning and Analysis

The Office of Academic Resource Planning and Analysis is responsible to the vice president, academic affairs for analysis and recommendations relating to the utilization of instructional resources and coordinates the activities of the Office of Institutional Research and the Computer Center.

RESEARCH ORGANIZATIONS AND SERVICES AND SPECIAL STUDY CENTERS

Much and varied research is going on at Cal State Fullerton. Most of this is being done by individual faculty members and students as part of their scholarly and professional development activities. Research training is an important part of the education for more advanced work in most disciplines and professions, and many of our students are encouraged and assisted to learn and apply research skills in either independent or team projects.

The Research Committee of the Faculty Council and the Contracts and Grants Office provide stimulus, coordination and direction to the research efforts of the university.

A Student Research Fellowship program and a Faculty Research Grant program award "seed grants" to promising research projects every year. Services supporting research are given by the Cal State Fullerton Foundation, the university Computer Center, and the university Library. Augmenting the on-campus aids to research are the great and diverse resources available for study in the Southern California area.

In addition to encouragement received by the campus to participate in multi-campus and single campus research projects awarded by the New Program Development and Evaluation Office of the Chancellor's Office, the university receives a specified amount of money each year for the support of faculty projects on the campus.

The university is particularly appreciative of the support money provided for faculty each year by the Friends of the State University.

A number of special centers with specific research objectives are operating at the university. These include the Center for Research in Business, Economics and the Community (with its affiliated Center for Economic Education and the Real Estate Research Institute), the Center for Governmental Studies, the Urban Research Institute, the Institute for Molecular Biology, the Institute for Reading, Institute for Early Childhood Education, Institute for Bilingual Studies, Western Management Institute, the Laboratory for Phonetic Research, the Special Education Clinic, the Speech and Hearing Clinic and the Tucker Wildlife Sanctuary.

Center for Research in Business, Economics and the Community

The Center for Research in Business, Economics and the Community provides:

1. School of Business Administration and Economics and other faculty with additional opportunity to partiipate in research activities in order to improve and reinforce teaching and professional competence;
2. Professional research and consultation services to the local area normally considered as being serviced by the university, including private business, labor, agriculture, and local government agencies;
3. Educational services, e.g., seminars and conferences, to improve the level of understanding and competence of local decision-makers in specialized areas relating to business administration and economics; and
4. A focus, through research, for the education of students and citizens in the business and economic problems of the local community, and for the involvement of faculty in such educational programs.

The operations of the center are carried out by constituent institutes, programs, and projects for which the center provides overall leadership and coordination. The institutes are long-term, continuing organizations designed to operate in selected major problem and functional areas of strategic significance and concern to the school. Programs and projects within the center are organized to carry on work outside the institute's area of interest, which are of smaller scale and for a shorter time-span.

Currently included within the Center for Research in Business, Economics and the Community are the affiliated Center for Economic Education and the Real Estate Research Institute.

Center for Economic Education

The Center for Economic Education is one of many such centers at colleges and universities in the United States working with the national Joint Council on Economics Education to expand economic understanding. Center programs include (1) services to schools and colleges, individual educators, and the community; (2) research and professional training; and (3) operation of an economic, education information center. The center consists of a broadly based executive policy board, an administrative staff, and formally organized groups of participating users. Although operating autonomously, the center is affiliated with the Center for Research in Business, Economics and the Community.

Real Estate Research Institute

The Real Estate Research Institute conducts a continuing research program, with special emphasis on urban development in Orange County. Studies are undertaken in cooperation with various public and private agencies, but primary funding is from the California State Department of Real Estate. Opportunities exist for student involvement.

Center for Governmental Studies

The Center for Governmental Studies was established and organized in 1965 under the direction of the Department of Political Science. Its purpose is to promote research and scholarship among both faculty and students, and to assist academic, governmental, professional and civic groups in the goals and programs. This is accomplished by offering assistance in the study of local governmental problems, providing instruction and experience in research techniques and methodology, and sponsoring community institutes and seminars.

Urban Research Institute

The Urban Research Institute is a joint venture between local government and the university. The institute has an advisory board representing governments and academic institutions in the area. The research on local problems is done by teams consisting of practitioners, elected officials, community representatives and academicians selected for their expertise in the areas under study. It is an attempt to fuse the experience and reality orientation of practitioners with the resources, knowledge and skills of the academic community in solving problems facing the residents and governments in Orange County.

Institute for Molecular Biology

The Institute for Molecular Biology was established for the purpose of promoting an atmosphere congenial to research and creative activity in the molecular biological sciences. It is an interdisciplinary organization comprised of certain faculty from the Departments of Biological Science, Chemistry and Physics. The institute is dedicated to the pursuit of problems of human welfare, utilizing an approach at the cellular and molecular level of inquiry. Its purposes are: (1) to foster and encourage communication of ideas and information among its membership for mutual professional improvement; (2) to encourage students to adopt affiliation with the membership and to adopt an interdisciplinary understanding of their particular areas of emphasis; (3) to foster an active research program on the part of the membership on problems best approached by the integration of chemistry, physics and biology; and (4) to seek ways of improving the individual teaching performance of its membership through interdisciplinary communication at all levels of instruction.

It is intended that the institute will function as a service to the departments that it represents. The institute sponsors a series of special seminars devoted to topics in the molecular biological sciences, featuring speakers from its own personnel and from other campuses.

Institute for Reading

In 1971, the Institute for Reading was established for the purpose of promoting an atmosphere congenial to research and creative activity for development of reading and related programs. In the fulfillment of this purpose, the institute is dedicated to the pursuit of issues encountered in teaching of reading to children and adults, using an interdisciplinary approach whenever feasible.

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It (1) fosters and encourages communication of ideas and information among its membership for mutual professional improvement; (2) encourages students to adopt affiliation with members and to adopt an interdisciplinary understanding of their particular areas of emphasis; (3) seeks ways of improving the teaching performance of its membership through interdisciplinary communication at all levels of instruction; and (4) fosters research activities on the part of the membership.

The Reading Center is located in the School of Human Development and Community Service. Its primary purpose is to serve as a clinic and laboratory for graduate students in the reading option of the Master of Science in Education. Children from the university community schools attend the Reading Center for diagnosis and remediation. The center houses materials and equipment relating to reading instruction.

Institute for Early Childhood Education

The Institute for Early Childhood Education was established for the purpose of promoting an atmosphere congenial to research and creative activity in the field of early childhood education. Toward the fulfillment of this purpose, the institute is dedicated to the pursuit of the education and study of young children.

It (1) fosters and encourages communication of ideas and information among its membership for mutual professional development; (2) encourages its members to engage in research and writing related to the problems of early childhood education; (3) encourages students and teachers to adopt an approach of inquiry to solve their professional concerns relating to the education of young children; and (4) seeks ways of improving the individual teaching performance of its membership through communication with others at all levels of instruction.

Institute for Bilingual Studies

The Bilingual/Cross-Cultural Institute was established to promote public awareness of the value of cultural and linguistic pluralism; to encourage educational policy makers to adopt and implement policies to guarantee equity in the provision of instruction; to encourage university faculty and interested scholars to develop programs and research directed toward high quality instruction based on cultural and linguistic pluralism; and to develop and operate activities that will prepare faculty for all levels of public education who have a vision of man as a being who is enhanced in a multicultural world, and who have the necessary knowledge and skills to prepare students for success in such a world.

Western Management Institute

The Western Management Institute is an institute associated with the school administration program. The specific purpose is to improve the management capability of cooperating school districts.

Laboratory for Phonetic Research

The Laboratory for Phonetic Research is a research and training facility in the Department of Linguistics. It is equipped with electromechanical facilities for the acoustical, psychoacoustical, and physiological study of human speech. Its objectives are twofold:

Instruction. To provide teaching, training and experience for students who will serve during their professional lives to assist the language handicapped.

Research. To provide advanced students and faculty with facilities for research on language function and dysfunction.

Special Education Clinic

The primary purpose of the Special Education Clinic is to provide intensive experiences for students with children referred by schools and other agencies in the community. The experiences involve educational assessment, instructional methodology and evaluation. All students participating in the clinic attend clinic seminars and prepare cases for presentation at the seminars.

Speech and Hearing Clinic

The Speech and Hearing Clinic operates as a nonprofit California State University, Fullerton Foundation agency, providing speech and hearing services for individuals with communication disorders. In addition it is an off-campus clinical program for graduate students that involve experiences within medical and paramedical settings. The primary purpose of the clinics both on campus and off

campus is to provide opportunities for teaching, service and research. University students receive clinical experience and opportunity for observation. The on-campus clinic is accredited by the Board of Examiners of the American Speech and Hearing Association and the California State Department of Education.

Tucker Wildlife Sanctuary

The Tucker Wildlife Sanctuary operates as a nonprofit California State University, Fullerton Foundation agency. The sanctuary provides for a program of continuing educational service to the community; a research center for biological field studies; a facility for teacher education in nature interpretation and conservation education; and a center for training students planning to enter into the public service field of nature interpretation.

Center for Internships and Cooperative Education

The Center for Internships and Cooperative Education was established to offer students the opportunity to combine their academic experience with periods of professional employment directly related to their academic major. The student, the university and the employer all benefit from the involvement in cooperative education.

Students gain a clearer understanding of their career objectives through the application of their academic studies in the "world of work." Learning while working outside the classroom, students obtain a broader perspective of themselves. Most of the departments offer an internship course which carries academic credit. Some of the internships are salaried and consequently assist students in meeting the cost of living.

The employing agency receives the services of individuals who are highly motivated, eager to learn and aware of theoretical developments in their field. The employer also finds participation in cooperative education to be one of the most reliable means of recruiting personnel for full-time employment upon graduation.

The university through the establishment of the Center for Cooperative Education, has provided a means for students to enhance their academic program. The center also serves as a feedback mechanism to keep the curriculum current and bring the campus and the community closer together.

Cooperative education is a program which offers innovative and expanded dimensions to the total education received by students at the university. The center provides services to students, faculty and employers to better implement this program.

CALIFORNIA STATE UNIVERSITY, FULLERTON FOUNDATION

The California State University, Fullerton Foundation was established and incorporated in October 1959 to provide essential student, faculty and staff services which cannot be provided from state appropriations; to supplement the program and activities of the university in appropriate ways; and to assist otherwise the university in fulfilling its purposes and in serving the people of the State of California—especially those of the area in which the university is located.

Services provided by the foundation include administration of scholarship and student loan funds; sponsored research programs; Tucker Wildlife Sanctuary; and certain institutes.

The foundation's overall policies are administered by a board of trustees composed of members of the university faculty, administration and students as well as community leaders.

TITAN SHOPS, INC.

Titan Shops, Inc., is comprised of the Titan Bookstore and food services. Established and incorporated in July 1971, it is administered by a board of trustees composed of members of the university faculty, administration, students and community business leaders.

Titan Bookstore

Students are able to purchase or order books and supplies as needed for classes from the on-campus bookstore, owned and operated by the Titan Shops, Inc. It is located in Commons I directly east of the University Center and west of the Library.

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Food Service

Titan Shops, Inc., is responsible for the food service facilities on the campus. Titan Shops has a contract with Professional Food Service Management (PFM) to operate the cafeteria food services and MAB Vendors to operate the vending machines on the campus.

STUDENT SERVICES

While classroom activity is devoted to the academic development of the learner, Student Services offers programs which simultaneously provide students with services and opportunities for personal growth. Some Student Services programs such as housing and financial aid emphasize their service and educationally supportive roles; others, like counseling, accentuate their developmental aspects. The opportunities offered by the university's Student Services program vary from the traditional "student activity" of fraternity and sorority "rush" to the establishment of a coffee house complete with weekly entertainment. More developmental in nature is the investigating of vocational and personal life styles through group and/or individual counseling and testing.

The Student Services program includes: counseling and testing, student activities, Associated Students government, housing, health services, financial aid, programs for the handicapped, international education, placement alumni affairs, educational opportunity for the culturally different, special projects, and services for women, minorities and veterans.

OFFICE OF THE DEAN

While each department within Student Services has its specific function and staff, the Dean of Student Services coordinates and administers the university's Student Services program. Additionally, the dean is an advocate for students to the faculty and administration and as such develops and maintains procedures within Student Services and the university which will increase the general welfare of the students and enhance their educational success at the university. Information regarding any of the Student Services programs may be obtained in the Dean of Student Services Office.

COUNSELING AND TESTING SERVICES

Students will find all kinds of counseling at this university. There is advice and counsel available from a variety of thoughtful and experienced persons about a variety of activities and questions. Each of these persons may give them counseling.

In the Counseling Center, "counsel" is devoted to a particular set of students' needs: the need to clarify or understand their struggles—crises, dilemmas, alternatives, perplexities, uncertainties; the need to plan or the need to be listened to—or to sort out what's troubling them when they feel uneasy and don't know why.

To the counselors in the center, counseling is a special kind of conversation. It is an opportunity for a student to sit down with a professionally trained counselor who cares about the student's growth and development, individuality, dignity, and goals. Counselors are concerned with students' questions about their identity, studies, vocations, relations with others, personal feelings, and life in general. Everything said during counseling is confidential. It is private. It is not administrative. The center keeps no records of conversations. There is no charge for these services; students have prepaid them through their student fees.

Counseling in the center is devoted to "listening." The center's goal is to listen and to provide substance; to aid a student in wrestling with choices, decision or plans; to face and deal with his knots and hard places with personal resources. No matter what the question or concern is and no matter how big or small a problem may be, counselors will listen.

Counselors with special backgrounds, ethnic or cultural, are available to talk with students regarding concerns. There are, for example, Black counselors available, Asian, men, and women counselors, and . . . . One of the center's newer developments is the availability of informed, trained peer counselors. Peer counselors are students trained as listeners, facilitators, clarifiers and guides. They can empathize, understand and see a student's experience with a unique immediacy. They know this campus well.

In addition to individual counseling, the Counseling Center offers a wide variety of credit classes through the School of Human Development and Community Services and noncredit groups. These activities vary from semester to semester but usually include courses focusing on career planning and personal growth and development along with personal exploration groups and workshops on reducing test anxiety and stress, relaxation, mind-body coordination and others. Students may contact the Counseling Center receptionist for detailed information about these offerings.

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Most counselors at the center prefer to spend the time talking with students rather than having them take tests. However, when tests or inventories have the possibility of providing a student with useful information, the counselor will assist in selecting them and then take time to discuss the results with the student.

Sometimes counsel, as defined here, is simply not enough. Students may want more and may need more. The center may not be able to supply it. Counselors realize they cannot be all things to all people. Counseling will help students find other alternatives and appropriate resources.

Counseling services are available to *all* Cal State Fullerton students. The decision to come to the center is entirely voluntary. Counselors are glad to have people suggest the center as a source of help, but information about their visits to the center is completely confidential. If coming into the center poses a problem a student may call and talk with a counselor by phone.

Testing and Student Research

Universitywide testing programs are coordinated and administered by the Testing Center. These include university admissions tests and general tests for graduate school admission. In addition, the Testing Center provides advice and consulting services to instructional departments in the development and administration of admission, selection, and placement tests for use by a specific department or program.

The Testing Center conducts ongoing research on the validity and appropriateness of tests used in university testing programs. It also designs and conducts surveys of student needs, attitudes, and other characteristics.

Testing requirements for students seeking admission are listed in the admissions section of this catalog. Students seeking information about testing requirements for specific instructional programs should inquire in the appropriate instructional division or the Counseling and Testing Center.

STUDENT ACTIVITIES

The university recognizes the important role of extracurricular and cocurricular activities. An extensive organization of clubs, interest groups and committees exists within the study body and university structure. Opportunities for involvement are available to every student according to interest, ability and available time. In addition, each academic department has a student department association which provides informal contact with faculty, and opportunities for cocurricular acitivites related to a student's major or career interest.

University Activities Center

The primary goal of the University Activities Center is to provide an opportunity for students to share in the exploration of educational, cultural and social activities at the university. The professional staff advises individual students as well as organizations in planning, budgeting and publicizing programs such as lectures, culture weeks, symposia, special events and projects. The office charters all student organizations, advises individual students/organizations of university policies and procedures and assists students in arranging for use of university services and facilities. General services include publishing a monthly calendar of events, and maintaining a master calendar of events.

Student Organizations

Student organizations are recognized as vital to the total educational process. They are chartered to encourage and facilitate use of university resources and integrate activities with a goal of sustaining a viable university community. Any group of students may become a chartered organization, provided the goals and activities are consistent with university rules and regulations by applying through the University Activities Center. Organizations are classified under the following headings: (1) *Academic* (organizations which share learning goals with a specific department); (2) *Religious;* (3) *Professional;* and, (4) *Special Interest.* More than 100 organizations are now recognized including six national social fraternities, five national social sororities, a number of departmental associations and many special interest groups.

Associated Students

All students are members of the Associated Students, Inc., and are represented by the Associated Students Board of Directors and executive officers, who develop and maintain extracurricular programs of every type. Each year a budget is adopted in the spring which allocates anticipated

activity fees and all other income to be derived from all programs during the following year. Directors are elected from various academic disciplines. One recent development is the Departmental Association Council, which is assigned a certain portion of the budget by the Board of Directors. The many departmental associations are established to promote closer relationships among students and faculty of their departments and bring programs to the departments that might not be possible without the funding provided by the Board of Directors. Most departments have established very active associations and participation by all students is solicited enthusiastically.

Student Government

The Associated Students, Inc., is governed through the executive, legislative, and judicial branches of the Associated Students organization. The president and commissioners constitute the executive branch which has the responsibility for the development and administration of the program, including such activities as publications, intercollegiate athletics, intramural athletics, forensics, and music. The Associated Students Board of Directors has full responsibility for legislation by which this program is directed and for the allocation of student funds for the program. The judicial branch serves as a legal body for interpretation of the constitution and enforcement of Associated Student policies.

Student Publications

The university newspaper, the *Daily Titan,* is published as a product of communications classes and financed by the Associated Students. In addition, a handbook is available for use by organizations in the development and operation of their program.

Men's Athletics

The intercollegiate athletic program consists of teams in baseball, basketball, football, golf, gymnastics, soccer, tennis, fencing and wrestling. A year-round program of intramural activities includes basketball, badminton, flag football, handball, softball, tennis and wrestling, swimming and weight lifting.

The university is a member of the Pacific Coast Athletic Association (PCAA). All men's athletic teams compete under rules of the National Collegiate Athletic Association (NCAA).

Intramural Activities

The University Recreation Program offers a wide variety of team, dual and individual intramural activities designed to meet the competitive and recreational needs of students, faculty and staff members. Rules and regulations governing participation in the intramural program are available in the Recreation Office, located in the Physical Education Building.

Women's Athletics

Participation by women in intercollegiate volleyball, basketball, tennis, gymnastics, and golf is provided through membership in the Southern California Women's Intercollegiate Athletic Conference, the Western Association for Intercollegiate Athletics for Women, and the American Association for Intercollegiate Athletics for Women.

Recreational Activities

A recreational activities program is offered to students, faculty, staff, affiliated, and community members, and their families who wish to use the recreational facilities on an unstructured, noncompetitive basis. Such activities as swimming, badminton, volleyball, basketball, tennis, table tennis, racquetball, jogging, handball and weight training are provided. Special instructional programs and club sports are also available in various activities.

Family Planning Services

Birth control counseling at the Student Health Center has been supplemented by a birth control information service, financed and operated by the Associated Students under the direction ot the university medical director. A part-time coordinator is available in the Student Health Center to make appointments with a Student Health Center physician. The physician advises the patient on the advantages and disadvantages of the various methods of birth control as well as giving the necessary physical examination.

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Campuswide Events

Student boards, organized by the Associated Students, sponsor many campuswide events. The lecture series, pop concerts, film series and special events are part of the ongoing program. All recognized student organizations frequently cosponsor events in the area of their interests.

Child Care Center

Sponsored by the Associated Students, Inc., is the Children's Center which provides daytime nursery care for children of Cal State Fullerton students for a nominal fee. The professionally staffed center, located near the campus, is licensed by the State of California.

Legal Information and Referral

This unique office provides assistance to students on matters pertaining to law and makes referrals in cooperation with the Orange County Bar Association and the Legal Aid Society. A full-time law student attending a recognized school of law maintains scheduled office hours in the University Center.

Mutual Ticket Agency

The Associated Students, through its business office, operates a ticket agency for the benefit of all students. Purchases for drama, music, shows and sporting events may be made during regular office hours. The agency is located in the University Center.

Student News Bureau

The Student News Bureau was organized in 1960 to provide the outside press with news of student activities on the campus. It is financed by a budgeted allocation from the Associated Students, Inc.

University Center

Funded and operated entirely by student fees, the University Center offers a broad range of services and programs to the university community. Specific facilities include an eight-lane bowling center, craft center, main lounge, secondary lounge, games lounge, billiard parlor, meeting rooms, television room, organizational work space, multipurpose room, small theater, music-listening room, information center, two retail shops, Associated Students offices, sunken plaza, courtyard and snack bar.

The Associated Students has delegated authority for policy-making decisions which guide the operation of the facility to the University Center governing board. The board is comprised of 10 members, six of whom are students.

HOUSING OFFICE

The Housing Office has a staff whose primary concern is to insure that every student's housing needs are measured and every attempt is made to satisfy these needs.

In order to meet these primary concerns, the office provides the following:

- List of off-campus housing, rooms and apartments. These listings are continuously updated.
- Summer orientations designed to find housing for students well in advance of the fall semester. The orientations generally bring together groups of students who share similar interests because of their housing needs.
- Model rental agreements are available to all students. This agreement has been carefully reviewed by legal counselors and represents the university's best recommendations to students.
- Information is available for students with questions about the rights and responsibilities of being a tenant.
- Bulletin boards are available for students requesting roommates or needing an apartment.
- A free computerized car pool service is available to students with transportation difficulties and students attempting to improve our ecology.

THE HEALTH CENTER

The Student Health Center is located on Gymnasium Campus Drive between the Physical Education Building on the west and the Engineering Building and the Geodesic Dome on the east. The center

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is open from 8 a.m. to 6 p.m., Monday through Thursday, and 8 a.m. to 5 p.m. Friday.

The doctors and nurses, laboratory and x-ray technologists, pharmacists, a physical therapist and aides are there to care for patient's medical needs. No one has access to a patient's medical records unless the patient gives permission for the transfer of records, or in the rare case, by court's subpoena.

Most of the doctors are generalists who have wide experience and interest in the health needs of students. In addition, there are psychiatrists, an orthopedist and gynecologists. The center has a pharmacy (not for outside prescriptions), a laboratory, an x-ray service, physical therapy, and hearing clinic.

The cost of care given in the Health Center, except for a few specific fees, already has been paid through student fees and by the State of California. Every registered student is eligible for care. However, the Health Center cannot meet all medical needs. Students are urged to obtain health insurance if they do not already have adequate private insurance. A good, inexpensive policy is offered through the Associated Students Office.

FINANCIAL AID

The Financial Aid Office provides guidance and assistance in financial matters to all students. Financial aid administers all scholarships, emergency loans, grants, National Direct Loans and the work-study programs.

One application for aid covers all programs for which a student may be eligible. Deadlines for applications are as follows: March 1 for the fall semester; November 15 for the spring semester; and April 1 for the summer sessions.

Dependent students, defined as those who are dependent upon their parents for support, must submit the following documents: (1) application; (2) Financial Aid Form of the College Scholarship Service; and (3) copy of parents form 1040.

Independent students, defined as those who are not dependent upon their parents for support, must provide the following documents: (1) application; (2) Student's Financial Aid Form of the College Scholarship Service; (3) copy of their own form 1040 and spouse's, when applicable.

Early submission of documents is advised, as funds are limited and demand is great.

Scholarships

A limited number of scholarships is available for outstanding students. Qualified students should obtain scholarship applications from the Financial Aid Office, and return by April 15 for the fall semester. Scholarship applications are evaluated by the university Scholarship Committee. Awards are based on scholastic record, financial need and personal qualifications. Some scholarships are limited to students majoring in specified disciplines. Departmental recommendations weigh heavily in such cases.

Scholarships offered by Cal State Fullerton are made possible by interested organizations, business firms and indviduals. Recent contributors to the scholarship program include:

Alpha Delta Kappa, Beta Zeta Center
California China Painters' Art Association
California Congress of Parents and Teachers, Inc.
California Retired Teachers Association
Ebell Club of Fullerton
Fourth District, California Parents and Teachers Association
Fullerton Rotary Club
Mercury Savings and Loan
Mu Phi Epsilon Scholarship Fund
Roberta Kind Maxwell Memorial Scholarship Fund
Sadie Landon Memorial Music Scholarship Fund
Sheryl Cummings Memorial Scholarship Fund

Loans

The generosity of organizations and individuals enables the university to offer short-term loans to students who meet unexpected financial difficulties of a temporary nature. Loans from these funds are made for various periods of time and to specified categories of students, according to university

regulations and the wishes of the donors. The prime purpose of these loans is to meet educationally related expenses, and thus loans cannot be made for the purposes which are normally financed by private lending institutions. Application for a short-term loan may be made at any time during the school year.

The following is a listing of the loan funds available during the 1977–78 school year:

Altrusa Club of Fullerton Loan Fund
Anaheim East Rotary Loan Fund
American Public Works Administration Loan Fund
Brea Rotary Club Loan Fund
California Congress of Parents and Teachers Loan Fund
California Congress of Parents and Teachers Loan Fund, Fourth District
California Retired Teachers Association
Carrie Lou Sutherland Memorial Fund
Cal State Fullerton Faculty Women's Club Loan Fund
Don Miller Memorial Fund
Gamma Epsilon Chapter of Delta Kappa Gamma Loan Fund
Hughes Employees Give Once Club
James Merrick Memorial Fund
Junior Ebell Club of Anaheim Loan Fund
Laguna Beach Pan-Hellenic Loan Fund
Laura E. Imhoff Memorial Fund
Mary Virginia Lopez Memorial Fund
Memorial Loan Fund
Newport Harbor Children's Theatre Loan Fund
Newport Harbor Pan-Hellenic Loan Fund
Pierre Guyette Memorial Fund
Rossmoor Women's Club Loan Fund

Alan Pattee Scholarship (Children of Deceased Peace Officers or Firemen)

Surviving children, natural or adopted, of California peace officers or firemen killed in the line of duty are not charged fees or tuition of any kind while enrolled at any California State University or College, according to the Alan Pattee Scholarship Act and Section 23762, California Educational Code. Students qualifying for these benefits are known as Alan Pattee scholars.

INTERNATIONAL EDUCATION

The Office of International Education and Exchange is the principal office for information and assistance for all foreign nationals and those students who plan to study overseas.

Foreign Students

Each year the university attracts an increasing number of applications from persons in foreign countries and currently more than 40 nations are represented in the student population. Special services are provided for these students and include orientation to the university; assistance with the resolution of academic and personal problems; help to comply with governmental regulations; and initiation of cocurricular activities. Further, the office prepares documents for entering the United States, applications for extensions of stay and change of status, and requested letters of standing for foreign consulates and institutions.

All foreign students are required to have the proficiency in the use of the English language required for successful academic work and sufficient funds to cover all expenses of the first year at the university, including adequate health insurance coverage. An English placement examination is held before registration for all new students.

Study Overseas

Information about opportunities to study in foreign universities is available in the Office. The director of international education and exchange coordinates the selection of students applying for admission to one of the many foreign university programs operated by the California State University and Colleges. (See also section on International Programs.)

A library of current programs sponsored by other institutions is maintained for student reference.

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HANDICAPPED STUDENT SERVICES

Located in a new custom designed Handicapped Student Center on the first floor of the Library, this office provides assistance and offers services to all handicapped/disabled students. The goal of this program is to make full educational, cultural, social and physical facilities of the university available to students with orthopedic and/or perceptual handicaps/disabilities.

A full range of services is available in cooperation with other university departments—a learning resource center and lounge, priority registration, orientation, attendant/reader/note-taker referral services, counseling, career planning, academic advisement, housing, transportation, handicapped medical parking and job placement. The purpose is to provide necessary services and assistance that will eliminate or significantly reduce barriers resulting from the mobility and perceptual problems encountered by most handiapped/disabled students. The program serves as a centralized source of information and provides individual attention to students. It is staffed by personnel experienced in the particular needs of the handicapped and disabled.

General fund budget support became a reality with the 1976–77 budget from the state. Supplemented by the Associated Students, Inc., the budget now allows for expansion and refinement of programs and services. In order to sustain a quality program, however, this office needs and actively encourages the involvement and input from the students it serves. The director of handicapped student services may be contracted in the Handicapped Student Center.

EDUCATIONAL OPPORTUNITY PROGRAM

The Educational Opportunity Program is an innovative educational program designed to provide comprehensive services for educationally, disadvantaged and/or culturally different students. These services include the identification, selection, counseling and retention of students who would not normally acquire a university education because of academic, ethnic, financial or motivational barriers.

EOP gives each of the students in its program individual attention. It also uses knowledge of the student's distinctive patterns of social behavior, learning styles, motivations, and aspirations to assist students in realizing their full potentialities. Additionally, EOP strives to develop a sense of community among its students through a variety of creative and identity-seeking activities.

Students are encouraged not only to understand the background and strengths of their own particular ethnic groups, but also to work together in support of central, universal human values. EOP is keenly interested in advancing the understanding of different cultural groups on this campus by promoting an awareness of their concerns and potentialities.

The services offered by the Educational Opportunity Program include: Talent Search, Upward Bound, Special Services, Upward Bound-Veterans, National Project II (FIPSE), publication and distribution of bilingual materials produced by the Title VII Program, recruiting, counseling, tutoring, and supporting secretarial services. These EOP support services are designed to ensure a progressive rate of student achievement and to provide the opportunity for realizing success in the fullest sense.

Talent Search

This program is designed to seek out and help qualified high school students or dropouts who have financial need and an exceptional potential for postsecondary education.

Upward Bound

This program is directed to high school students with good potential and the ability to complete college work, but who are underachieving. Upward Bound provides these students with supplemental academic and counseling support to motivate them to complete high school and assist them in entering higher education.

Special Services

Counseling, tutorial and other educational services are provided to students already in college or accepted for enrollment. The program is designed to remedy academic deficiencies and to provide career guidance, placement and other services to encourage them to continue (or re-enter) higher education.

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Upward Bound-Veterans

This program has been established in order to assist veterans, (ages 27 or younger) to obtain a high school diploma, or GED, and to "bridge" into a college, university, or trade school, if he/she so wishes. The program is geared for full-time participation by veterans. However, if a veteran wishes to participate only for GED preparation, he/she may do so.

Recruiting

EOP recruiting teams visit high schools and colleges within a specified service area and advise students of the benefits of higher education at Cal State Fullerton. Utilizing Affirmative Action guidelines, a special attempt is made to recruit students with high academic potential. Assistance with admissions and financial aid procedures is an important service of this component.

Counseling Service

The counseling component is one key to the effectiveness of the entire EOP. Peer counselors, working under the direction of professional counselors, are the important liaisons between each individual EOP student and the university as a whole. Assistance and guidance is provided to help the student resolve academic, social, financial and personal problems. The EOP Counseling Center also acts as a referral point to direct students to the appropriate support services, e.g., financial aid, housing, Learning Assistance Center, tutorial services, health services, etc.

PLACEMENT SERVICES

A centralized Career Planning and Placement Center is responsible for assisting students in career planning and in finding both part-time and career employment. The university believes that it best serves both the student and employers only when its graduates have been placed in the professions for which they are prepared and trained. All registered students are welcome to use the services of the Center without cost.

The campus may furnish, upon request, information concerning the subsequent employment of students who graduate from programs or courses of study which have the purpose of preparing students for a particular career field. This information includes data concerning average starting salary and the percentage of previously enrolled students who obtained employment. The information provided may include data collected from either graduates of the campus or graduates of all campuses in The California State University and Colleges. Interested prospective students may request copies of the published information from director of the center.

Part-Time Placement

Students wishing part-time jobs either on or off campus are eligible to receive the assistance of the office. New students may receive service after August 1 for the fall semester or after January 1 for the spring semester. Secretarial skills are in great demand, but calls for drivers, custodians, teacher aides, draftsmen, waiters, clerks, youth and recreation leaders, sitters, gardeners, etc., are received. Entering freshmen who must augment their resources while going to school are encouraged to limit their work hours to approximately 15 per week.

Business, Industry and Government Placement

Through personal interviews the career placement counselors assist students, and alumni who are seeking career employment in business, industry, or government in defining occupational preference, providing active job leads and writing résumés. In addition, the Center coordinates the on-campus recruitment program which brings hundreds of employers to the students each semester.

The center is a member of the regional Job Bank service, and a computerized listing of more than 1,000 job opportunities in Southern California is received daily.

The Center's Career Library has an ever-expanding selection of resource materials on career opportunities. Federal, state, county, city and armed forces brochures and applications are also available. One section of the Career Library is devoted to information on nontraditional or alternative vocations. The Center serves as liaison office for the military and Action/Peace Corps-VISTA offering counseling and information brochures to any interested student.

Educational Placement

Students in the teacher education, pupil personnel services, or administration curriculum of the university who are in the final semester of a credential program, student teaching or directed field

work, are eligible to register and receive the services of the Center. Counselors help registrants organize a professional employment file, supply information on openings and help to establish their candidacies in the school districts and educational institutions.

Coordinator of Minority Relations

The coordinator of minority relations is responsible for broadening awareness in the entire community of placement services available to all disadvantaged persons and for encouraging minority students to register with the center for career counseling and placement services. In addition, the minority relations offers information regarding the opportunities available to the minority student for graduate studies. This resource encompasses financial aid, application filing, recruitment sessions and personal contact with those involved in minority programs on other campuses.

Minority enrollment in programs of higher education will increase by keeping students aware of deadline dates, entrance requirements and other pertinent information. Another step in increasing the number of minorities in graduate school is to give attention to the needs of the undergraduate, through study-related work, tutoring and referrals to other agencies which would be useful to the student.

The coordinator of minority relations works cooperatively with colleagues responsible for other specialized functions, e.g. teaching, part-time jobs, business, industry and government, and does not serve as the sole placement counselor for all minority students.

Special Project and Publications

The center has special offerings in the areas of résumé writing, job hunting and interview techniques as well as types of alternative careers for students unable to find employment. Research in areas of teacher supply and demand, job attrition, and employment practices, and a periodic follow-up of graduates to determine adequacy of educational and professional preparation are important facets of the center's activities. Videotaping simulated interviews, workshop presentations and special events are integral parts of the career education program.

Regular and occasional publications include *Paragraph Communication,* a newsletter published three times a year and distributed widely in the business community; the *Career Monograph* series which includes academic requirements for all majors offered at the university and potential careers to which such majors lead, combined with employment information in related fields; a *Referral Register* of career jobs in education and business; a bulletin of administrative openings in education; and a twice-a-year compilation of corporate and agency recruitment on campus.

Students and graduates unable to check with the Center in person also have access to two dial-a-job telephone numbers which they may call for information about current openings in education, business and industry.

SPECIAL PROJECTS

The Office of Special Projects is concerned with formulating and adjudicating student rights, grievances and reponsibilities. The office coordinates both the student grievance and the student disciplinary procedures. Additionally, the office carries out special projects related to Student Services as assigned by the dean.

ALUMNI AFFAIRS

The Alumni Association was established to strengthen the bond between the alumni and the university. The association is directed by a board which acts as an informal advisory council in its biannual meetings with the university president.

Through continuing education programs, cultural enrichment, and social activities, the association attempts to help graduates continue the growth and self discovery that began while they attended Cal State Fullerton.

Membership benefits include discounts on cultural and athletic events; use of the University Center recreational facilities at the same rate as current students; ability to join ORCO credit union; and receipt of the university's quarterly magazine, Continuum, and a quarterly alumni newsletter and a membership directory.

Further information regarding membership and programs may be obtained by calling the Office of Alumni Affairs.

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OFFICE OF VETERANS' SERVICES

The Office of Veterans' Service was established to aid and assist all veterans, especially Vietnam-era veterans, who are not now participating in a postsecondary educational experience. Functioning under an institutional award from the U.S. Department of Health, Education and Welfare, the office is charged with the responsibilities of (1) outreach, (2) recruitment, (3) special programs and (4) counseling. In addition, it assists and aids veterans in registration, tutoring, benefit advisement, educational opportunities, housing and job placement (both on and off campus).

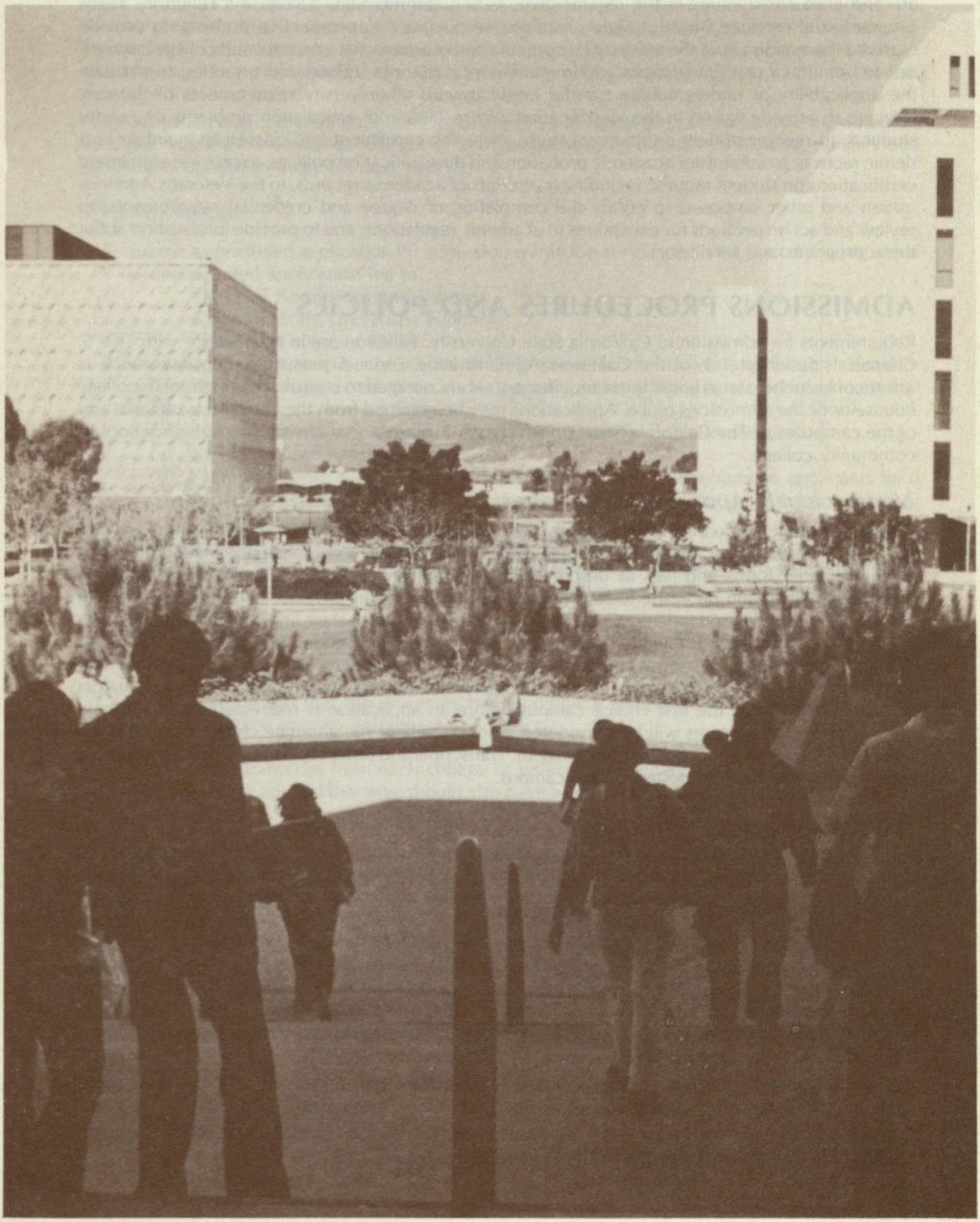
The program director of veterans' services may be contacted in the Veterans' Services Office.

WOMEN'S CENTER

The Women's Center provides support, information and resources to help women explore the many options available today. Its goals are to provide: (1) a caring, supportive atmosphere to help develop meaningful friendships, share experiences, and enhance personal growth; (2) information and referrals to community and campus agencies; (3) individual and group counseling; (4) develop self-competence in making personal, educational, and career choices; (5) special services for re-entry to school or the work world; and (6) programs and workshops which reflect the special concerns of women's changing life patterns. The Women's Center is designed to serve specific needs of women and is open to all interested men.

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admission registration records and regulations



ADMISSION TO THE UNIVERSITY

OFFICE OF ADMISSIONS AND RECORDS

The Office of Admissions and Records is responsible for the administration of the admission, registration, records, and relations with schools and colleges programs and services for undergraduate and graduate students in the regular sessions of California State University, Fullerton. These programs and services are to provide preadmission guidance to prospective students; to provide current information about the university's curricula and requirements to school and college counselors; to admit and readmit students within enrollment categories, quotas and priorities; to evaluate the applicability of undergraduate transfer credit toward all-university requirements of the curriculum; to provide liaison in the identification and resolution of articulation problems of transfer students; to register student programs of study, including enrollment into classes; to maintain academic records; to administer academic probation and disqualification policies; to provide enrollment certifications on student request, including transcripts of academic records, to the Veterans Administration and other purposes; to certify the completion of degree and credential requirements; to review and act on petitions for exceptions to academic regulations; and to provide information about these programs and services.

ADMISSIONS PROCEDURES AND POLICIES

Requirements for admission to California State University, Fullerton are in accordance with Title 5, Chapter 1, Subchapter 3, of the California Administrative Code. A prospective applicant who is unsure of his or her status under these requirements is encouraged to consult a high school or college counselor or the admissions office. Applications may be obtained from the admissions office at any of the campuses of The California State University and Colleges or at any California high school or community college.

Undergraduate Application Procedures

Prospective undergraduates, whether applying for part-time or full-time programs of study, in day or evening classes, must file within the appropriate filing period, a complete application including all the required forms and fees as described in the application booklet. The $20 nonrefundable application fee should be in the form of a check or money order payable to The California State University and Colleges. Undergraduate applicants may file only at their first choice campus. Alternate choice campuses and majors may be indicated on the application, but applicants should list as alternate campuses only those campuses of The California State University and Colleges that they will attend if the first choice campus cannot accommodate them. Generally, alternate degree majors will be considered at the first choice campus before an application is redirected to an alternate choice campus. Applicants will be considered automatically at the alternate choice campus if the first choice campus cannot accommodate them. Transcripts and other supporting documents should not be submitted until requested by the campus.

Post-Baccalaureate and Graduate Application Procedures

All applicants for any type of post-baccalaureate or graduate status (e.g., master's degree applicants, those seeking credentials, and those interested in taking courses for personal or professional growth) must file, within the appropriate filing period, a complete application including all of the required forms and fees described in the application booklet. Post-baccalaureate applicants who completed undergraduate degree requirements and graduated the preceding term are also required to complete and submit an application and the $20 nonrefundable fee. Since applicants for post-baccalaureate programs may be limited to the choice of a single campus on each application, redirection to alternative campuses or later changes of campus choice will be minimal. In the event that a post-baccalaureate applicant wishes to be assured of initial consideration by more than one campus, it is necessary to submit a separate application (including fee) to each.

Post-baccalaureate applicants seeking second baccalaureates are considered undergraduate applicants for purposes of application and admission procedures, categories, and quotas.

Application materials may be obtained from the Office of Admissions and Records or the Graduate Studies Office of any campus within the system.

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Admission Categories and Quotas; Systemwide Impacted Programs

Admission quotas have been established by some campuses, in some majors, where the number of applicants is expected to exceed campus resources. At Fullerton, categories have been established for students who are: first-time freshmen; freshmen and sophomore undergraduate transfer applicants; junior and senior undergraduate transfer applicants; special program applicants; hardship applicants; and foreign students. Also, there is a quota for most graduate level programs.

All applications received in the first month of the filing period will receive equal consideration for such categories. A few undergraduate programs are impacted throughout the 19-campus system, and applicants to such programs are expected to meet supplementary admission criteria for admission to these programs. Such programs are announced each fall. Applicants to these major programs will be sent further information by the campuses about the supplementary criteria to be used, and how and when applicants must meet them. Applicants to impacted programs must apply during the first month of the filing periods.

After admission and enrollment, requests for change to a different (i.e., a new) academic objective involving established admission categories and quotas will be evaluated following policies and procedures parallel to those for new students.

How to Apply

1. Submit a completed application for admission within the announced filing period accompanied by the required application fee to:
   Office of Admissions and Records
   California State University, Fullerton
   Fullerton, California 92634
2. Request required transcripts of record of all previous scholastic work from each school or college attended when asked to do so by the admissions office. The transcripts required at Fullerton are:
   —for undergraduates applicants with fewer than 56 transferable semester units—
   (a) the high school transcript, and
   (b) a transcript from each college or university attended. Undergraduate applicants for a teaching credential must submit two copies of the transcript from each college or university attended.
   —for undergraduates with 56 or more transferable semester units—
   (a) a transcript from each college or university attended. Applicants for a teaching credential must submit two copies of the transcript from each college or university attended.
   —for graduates—
   (a) applicants for unclassified post-baccalaureate standing with no degree or credential objective must submit a transcript from the college or university where the baccalaureate was earned. Further, one transcript from other institutions attended are required as necessary so that the university has a complete record of the last 60 semester units attempted prior to enrollment at Fullerton.
   (b) applicants for a master's degree or teaching credential, or both, must submit two copies of the transcript from each college or university attended.

   All students are advised that they should also have a complete set of college transcripts for their personal use at all times of advisement.

   All transcripts must be received directly from the issuing institutions and become official records of the university; such transcripts therefore cannot be returned or reissued. Foreign language transcripts must be accompanied by certified English translations.
3. All undergraduate students, who have completed fewer than 56 semester or 84 quarter units of transferable work, are required to submit scores from either one of two national testing programs before eligibility for admission to the university can be determined. This requirement does not affect undergraduate students who have previously attended Cal State Fullerton and who have submitted ACT or SAT scores at the time of their first admission.

   Registration forms and test dates for either test may be obtained from school or college counselors, from the address below, or from the campus testing offices. For either test, submit the registration form and fee at least one month prior to the test date.

ACT Address	*SAT Address*
American College Testing Program, Inc. Registration Unit, P.O. Box 168 Iowa City, Iowa 52240	College Entrance Examination Board P.O. Box 592 Princeton, New Jersey 08540

Applicants to classified graduate curricula must submit the scores of any qualifying examinations required in their prospective programs of study.

Application Filing Periods

Terms	*Filing Period Begins*	*Filing Period Duration*
Fall	The previous November	Until application quotas are filled
Spring	The previous August	

Space Reservations

Applicants who can be accommodated will receive space reservation notices. Space reservation notices are not statements of admission but are a commitment by Cal State Fullerton to admit the applicants who establish their eligibility for admission. The space reservations direct applicants to arrange to have appropriate records forwarded promptly to the admissions office. Applicants should not request that any records be forwarded until they have received a space reservation notice. Space reservation notices are mailed by the university to those who apply in November for fall terms (August for spring terms) in December (September for spring applicants). Applicants filing after initial filing periods will normally receive their notices within three weeks of the receipt of their applications.

Hardship Petitions

Each college or university has established procedures to consider qualified applicants who would be faced with an extreme hardship if not admitted. Prospective hardship petitioners should write to the director of admissions regarding specific policies governing hardship admission.

ADMISSION REQUIREMENTS FOR FIRST-TIME FRESHMEN

Applicants who have completed no college work after high school graduation will be considered for admission as first-time freshmen under one of the following provisions. Results of either the CEEB Scholastic Aptitude Test (SAT) or the American College Testing program examination (ACT) are acceptable in establishing eligibility.

Exceptions: College credit earned concurrent with high school enrollment; college credit earned in summer session after high school and prior to regular matriculation in college; college credit granted for the CLEP or advanced placement programs, or military or DANTES courses; or college credit granted for some nontraditional learning experience, will not affect the applicant's status as first-time freshmen for application quota purposes as well as admission. Further, the accelerated student, who completes a high school program mid-year, who has applied to The California State University and Colleges for the following fall term, but chooses to attend a local community college in the spring term, will be considered a first-time freshman for application quota purposes as well as admission. All such college or advanced standing credit, if fully acceptable as transfer credit, will be granted after admission.

California high school graduates or legal residents for tuition purposes must have a grade-point average and total score on the SAT, or composite score on the ACT, which together provide an eligibility index placing them in the upper one-third of California high school graduates. For 1977–78 the minimum eligibility index is 3,072 using the SAT or 741 using the ACT. Effective the fall semester 1978 the minimum eligibility index will be 3147 using the SAT or 760 using the ACT.

High school graduates from other states or possessions who are nonresidents for tuition purposes must present an eligibility index which places them in the upper one-sixth of California high school graduates. For 1977–78 the minimum eligibility index is 3,402 using the SAT or 826 using the ACT.

The eligibility index is computed either by multiplying the grade-point average by 800 and adding it to the total SAT score, or multiplying the grade-point average by 200 and adding it to 10 times the composite ACT score. Grade-point averages are based on work completed in the final three years of high school, exclusive of physical education and military science.

As an alternative, the following table may be used to determine the eligibility of graduates of California high schools (or California legal residents) for freshman admission to a California State University or College.

1977–78 ADMISSIONS TABLE FOR CALIFORNIA HIGH SCHOOL GRADUATES OR CALIFORNIA LEGAL RESIDENTS

GPA	ACT Score	SAT Score	GPA	ACT Score	SAT Score	GPA	ACT Score	SAT Score
(—) *			2.80	19	832	2.39	27	1160
3.20	11	512	2.79	19	840	2.38	27	1168
3.19	11	520	2.78	19	848	2.37	27	1176
3.18	11	528	2.77	19	856	2.36	27	1184
3.17	11	536	2.76	19	864	2.35	28	1193
3.16	11	544	2.75	20	872	2.34	28	1200
3.15	12	552	2.74	20	880	2.33	28	1208
3.14	12	560	2.73	20	888	2.32	28	1216
3.13	12	568	2.72	20	896	2.31	28	1224
3.12	12	576	2.71	20	904	2.30	29	1232
3.11	12	584	2.70	21	912	2.29	29	1240
3.10	13	592	2.69	21	920	2.28	29	1248
3.09	13	600	2.68	21	928	2.27	29	1256
3.08	13	608	2.67	21	936	2.26	29	1264
3.07	13	616	2.66	21	944	2.25	30	1272
3.06	13	624	2.65	22	952	2.24	30	1280
3.05	14	632	2.64	22	960	2.23	30	1288
3.04	14	640	2.63	22	968	2.22	30	1296
3.03	14	648	2.62	22	976	2.21	30	1304
3.02	14	656	2.61	22	984	2.20	31	1312
3.01	14	664	2.60	23	992	2.19	31	1320
3.00	15	672	2.59	23	1000	2.18	31	1328
2.99	15	680	2.58	23	1008	2.17	31	1336
2.98	15	688	2.57	23	1016	2.16	31	1344
2.97	15	696	2.56	23	1024	2.15	32	1352
2.96	15	704	2.55	24	1032	2.14	32	1360
2.95	16	712	2.54	24	1040	2.13	32	1368
2.94	16	720	2.53	24	1048	2.12	32	1376
2.93	16	728	2.52	24	1056	2.11	33	1384
2.92	16	736	2.51	24	1064	2.10	33	1392
2.91	16	744	2.50	25	1072	2.09	33	1400
2.90	17	752	2.49	25	1080	2.08	33	1408
2.89	17	760	2.48	25	1088	2.07	33	1416
2.88	17	768	2.47	25	1096	2.06	33	1424
2.87	17	776	2.46	25	1104	2.05	34	1432
2.86	17	784	2.45	26	1112	2.04	34	1440
2.85	18	792	2.44	26	1120	2.03	34	1448
2.84	18	800	2.43	26	1128	2.02	34	1456
2.83	18	808	2.42	26	1136	2.01	34	1464
2.82	18	816	2.41	26	1144	2.00	35	1472
2.81	18	824	2.40	27	1152	(—) †		

* Students earning grade-point averages above 3.20 are eligible for admission.
† Students earning grade-point averages below 2.0 are not eligible for admission.

Graduates of Secondary Schools in Foreign Countries

Applicants who are graduates of foreign secondary schools must have preparation equivalent to that required of eligible California high school graduates. The university will carefuly review the previous record of all such applicants and only those with promise of academic success equivalent to that of eligible California high school graduates will be admitted.

Non-High School Graduates

Applicants over 18 years of age, but who have not graduated from high school, will be considered for admission as first-time freshmen only when preparation in all other ways is such that the university believes promise of academic success is equivalent to that of eligible California high school graduates.

High School Students

Students still enrolled in high school will be considered for enrollment in certain special programs, including summer session, if recommended by their principal and if in the judgment of the university their preparation is equivalent to that required of eligible California high school graduates. Such admission is only for a given course or program and does not constitute the right to continued enrollment.

Recommended Preparation

Overall excellence of performance in high school subjects and a test score giving evidence of academic potential provide the best bases for predicting success at Cal State Fullerton. While no specific course pattern is required, all prospective freshmen are strongly encouraged to include the following subjects in their preparation for work at Cal State Fullerton: college preparatory English; another language; mathematics; laboratory science; history or social science (or both); and study in speech, music, art and other subjects contributing to a well-rounded academic background. Students who anticipate intensive study in science are urged to take four years of mathematics and three years of foreign language in high school.

In addition to the foregoing general recommendations for preparation for university studies, the members of the faculty in certain departments have made further specific recommendations for those considering majoring in the following fields of study.

Business Administration: A minimum of three years of mathematics including a second course in algebra; four years strongly encouraged.

Elementary Credential Candidates. Algebra, geometry, one year of natural science recommended.

Engineering: Algebra (two years), geometry, trigonometry, and one year of chemistry. One year of physics, and additional mathematics are desirable. Also, foreign languages are desirable, but not required.

English: A minimum of four years of English courses, each course emphasizing basic elements of essay writing, two courses joining composition work to the analysis and interpretation of literature.

Foreign Language: Up to five years in the proposed language of study.

Mathematics: Four years of mathematics including geometry, trigonometry, and two years of algebra.

Religious Studies: A minimum of three years of English, four years strongly encouraged. Comparative religion or the Bible as English literature if offered.

ADMISSION REQUIREMENTS FOR UNDERGRADUATE TRANSFER STUDENTS

Applicants for admission as undergraduate transfers in good standing at the last institution attended will be considered for admission under one of the following provisions:

1. They were eligible for admission in freshman standing (see first-time freshman requirements) and have earned an average grade of "C" (2.0 on a scale where A equals 4.0) or better in all transferable college units attempted.
2. They have completed at least 56 transferable semester units or 84 transferable quarter units with an average grade of "C" (2.0 on a scale where A equals 4.0) or better if a California resident. Nonresidents must have a grade-point average of 2.4 or better.

The California community college transfer student should consult the community college counseling office for information on transferability of courses.

De Novo Admissions Program

The *de novo* admissions program has been approved by the Chancellor's Office of The California State University and Colleges as a two-year experimental program ending with the fall semester, 1977, to identify and return to undergraduate studies those individuals who are ready to begin anew their studies in higher education.

The program is designed for the mature individual possessing sound academic ability but who because of any number of reasons (illness, immaturity, folly) performed poorly in college, and because of that performance was discouraged from continuing an academic career. For further information, write to the dean of admissions and records.

Other Applicants

Applicants not admissible under one of the above provisions should enroll in a community college or other appropriate institution. Only under the most unusual circumstances, and then only by special action, will such applicants be permitted to enroll in the university.

SPECIAL NOTICE TO ALL FRESHMAN AND SOPHOMORE APPLICANTS

In May of 1976 the Board of Trustees of The California State University and Colleges approved a resolution requiring a writing proficiency and diagnostic examination for all entering lower division students, to be initiated no earlier than September 1977. At the time of the preparation of this catalog the specific details of this requirement had not been determined. All fall 1977, and later, applicants will receive information from the Office of Admissions and Records as such information is made available. *The results of the writing examination will not affect admission eligibility.*

ADMISSION REQUIREMENTS FOR POST-BACCALAUREATE AND GRADUATE STUDENTS

Post-Baccalaureate Standing. Unclassified.

For admission to unclassified post-baccalaureate standing, a student must: hold an acceptable baccalaureate degree from an institution accredited by a regional accrediting association or have completed equivalent academic preparation as determined by an appropriate campus authority; have attained a grade point of at least 2.5 (on a five-point scale) in the last 60 semester (90 quarter) units attempted; and have been in good standing at the last college attended.

An applicant ineligible for admission under these provisions may be admitted by special action if on the basis of acceptable evidence he is judged by appropriate university authority to possess sufficient academic, professional or other potential pertinent to his educational objectives to merit such action.

Admission to a California State University or College with post-baccalaureate unclassified standing does not constitute admission to graduate degree curricula.

Post-Baccalaureate Standing. Classified.

A student eligible for admission to a California State University or College in unclassified standing may be admitted to classified post-baccalaureate standing for the purpose of enrolling in a particular post-baccalaureate credential or certificate program; provided, that such additional professional, personal, scholastic, and other standards, including qualifying examinations, as may be prescribed for the particular program by the appropriate campus authority are satisfied.

Graduate Standing. Conditionally Classified.

A student eligible for admission to a California State University or College under unclassified post-baccalaureate standards above, but who has deficiencies in prerequisite preparation which in the opinion of the appropriate campus authority can be met by specified additional preparation, including qualifying examinations, may be admitted to an authorized graduate degree curriculum with conditionally classified graduate standing.

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Graduate Standing. Classified.

A student eligible for admission to a California State University or College in unclassified or conditionally classified standing may be admitted to an authorized graduate degree curriculum of the campus as a classified graduate student if he or she satisfactorily meets the professional, personal, scholastic or other standards for admission to the graduate degree curriculum, including qualifying examinations, as the appropriate campus authority may prescribe. Only those applicants who show promise of success and fitness will be admitted to graduate degree curricula, and only those who continue to demonstrate a satisfactory level of scholastic competence and fitness shall be eligible to proceed in such curricula.

ADMISSION REQUIREMENTS FOR STUDENTS FROM OTHER COUNTRIES

Normally, the university accepts for consideration only two categories of applicants from other countries:

1. Those who have completed, with a good academic record, a two-year program in an accredited institution of higher education.
2. Those who have completed a bachelor's degree or its equivalent, with a good academic record, in an accredited institution and wish to enroll as graduate students.

Persons applying from their home countries are normally considered for admission to the fall semester only. Those transferring from U.S. institutions may apply to the fall or spring semesters.

All applicants whose native language is other than English are required to present a satisfactory score on the Test of English as a Foreign Language (TOEFL). Applicants should obtain the *TOEFL Bulletin of Information* and registration forms well in advance. Copies of this bulletin and registration forms are often available at American embassies and consulates, offices of the United States Information Service, United States educational commissions and foundations abroad, bi-national centers, and several private organizations. Those who cannot obtain locally a *TOEFL Bulletin of Information* should write to: Test of English as a Foreign Language, Box 899, Princeton, New Jersey, U.S.A. 08540.

Application procedures in other respects are the same as for other students, except that transcripts of educational documents in languages other than English must be accompanied by approved translations into English.

ADMISSION REQUIREMENTS FOR SUMMER SESSION STUDENTS

Although the quality of the program and most of the course offerings are the same as in the regular session, the university does not require an advance application or transcripts from students registering for credit courses in the summer session. However, students normally must be high school graduates and are expected to have satisfied the prerequisites for the courses in which they register. In addition, students are expected to file a request to register in the summer session. Admission to summer session does not grant admission to the regular session.

READMISSION OF FORMER STUDENTS

A student previously enrolled in the university, planning to return after an absence of one or more semesters, must file a new application for admission in accordance with procedures set forth below. The application fee is required if the student was not enrolled in either of the two semesters prior to the semester of reapplication or if enrolled in another institution during the absence from Cal State Fullerton. Unless a leave of absence was granted, catalog requirements at the time of readmission will apply.

Former Students in Good Standing

A student who left the university in good standing will be readmitted provided any academic work attempted elsewhere since the last attendance does not change his or her scholastic status. Transcripts of the record of any work attempted in the interim are required.

Former Students Who Were on Probation

A student on probation at the close of the last enrollment will be readmitted on probation provided he or she is otherwise eligible. The student must furnish transcripts of any college work taken during the absence.

Former Students Who Were Disqualified

The readmission of a previously disqualified student is by special action only. Ordinarily the university will consider an application for reinstatement only after the student has remained absent for a minimum of one year following disqualification and has fulfilled all recommended conditions. In every instance, readmission action is based on evidence, including transcripts of study completed elsewhere subsequent to disqualification, which in the judgment of the university warrants such action. If readmitted, the student is placed on scholastic probation.

GENERAL INFORMATION ABOUT ADMISSION AND EVALUATIONS OF ACADEMIC RECORDS

Determination of Residence

New and returning students of the California State University and Colleges are classified for the purpose of determining the residence of each student for nonresident tuition purposes. The residence questionnaire and, if necessary, other evidence furnished by the student are used in making these determinations. A student may not register and enroll in classes until the residence questionnaire has been received by the admissions office.

The following statement of the rules regarding residency determination for nonresident tuition purposes is not a complete discussion of the law, but a summary of the principal rules and their exceptions. The law governing residence determination for tuition purposes by The California State University and Colleges are found in the Education Code, Sections 68000–68090, 90403, 89705–89707.5 and 68122, 68124, and 68121, and in Title 5 of the California Administrative Code, Article 4 (commencing with Section 41901) of Subchapter 5 of Chapter 1, Part V. A copy of the statutes and regulations is available for inspection at the campus admissions office.

Legal residence may be established by an adult who is physically present in the state while, at the same time, intending to make California his or her permanent home. Steps must be taken at least one year prior to residence determination date to evidence the intent to make California the permanent home with concurrent relinquishment of the prior legal residence. Some of the relevant indicia of an intention to establish and maintain California residence may be established by registering to vote and voting in elections in California; satisfying resident California state income tax obligations on total income, ownership of residential property or continuous occupancy or letting of an apartment on a lease basis where one's permanent belongings are kept; maintaining active resident memberships in California professional or social organizations; maintaining California vehicle plates and operator's license; maintining active savings and checking accounts in California banks; and maintaining permanent military address and home of record in California if one is in the military service.

The student within the state for educational purposes only does not gain the status of resident regardless of the length of the stay in California.

In general, the unmarried minor (a person under 18 years of age) derives legal residence from his or her parents, or, in the case of permanent separation of the parents, from the parent with whom the minor maintains the place of abode. The residence of a minor cannot be changed by act of the minor or that of the minor's guardian, so long as the minor's parents are living.

A man or a woman may establish his or her residence; marriage is not a governing factor.

The general rule is that a student must have been a California resident for at least one year immediately preceding the residence determination date in order to qualify as a "resident student" for tuition purposes. At the Fullerton campus, the residence determination date for fall terms is September 20, and for spring terms is January 25.

There are several exceptions for nonresident tuition. Some of the exceptions provided for:

1. Persons below the age of 19 whose parents were residents of California but who left the state while the student was still a minor. When the minor reaches age 18, the exception continues for one year to enable the student to qualify as a resident student.
2. Persons below the age of 19 who have been present in California for more than a year before the residence determination date, and entirely self-supporting for that period of time.

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3. Persons below the age of 19 who have lived with and been under the continuous direct care and control of an adult, not a parent, for the two years immediately preceding the residence determination date. Such adult must have been a California resident for the most recent year.
4. Dependent children and spouses of persons in active military service stationed in California on the residence determination date. This exception applies only for the minimum time required for the student to obtain California residence and maintain that residence for a year. The exception, once attained, is not affected by transfer of the military person directly to a post outside the 50 states and the District of Columbia.
5. Military personnel in active service stationed in California on the residence determination date for purposes other than education at state-supported institutions of higher education. This exception applies only for the minimum time required for the student to obtain California residence and maintain that residence for a year.
6. A student who is an adult alien is entitled to residence classification if the student has been lawfully admitted to the United States for permanent residence in accordance with all applicable provisions of the laws of the United States; provided, however, that the student has had residence in California for more than one year after such admission prior to the residence determination date. A student who is a minor alien shall be entitled to residence classification if both the student and the parent from whom residence is derived have been lawfully admitted to the United States for permanent residence in accordance with all applicable laws of the United States, provided that the parent has had residence in California for more than one year after acquiring such permanent residence prior to the residence determination date of the term for which the student proposes to attend the university.
7. Certain refugees and certain alien graduates of California public high schools.
8. Certain credentialed, full-time employees of school districts.
9. Full-time California State University and Colleges employees and their children and spouses. This exception applies only for the minimum time required for the student to obtain California residence and maintain that residence for a year.
10. Certain exchange students.
11. Children of deceased public law enforcement or fire suppression employees, who were California residents, and who were killed in the course of law enforcement or fire suppression duties.
12. A person in continuous full-time attendance at an institution who had resident classification on May 1, 1973, shall not lose such classification as a result of adoption of the uniform student residency law on which this statement is based, until the attainment of the degree for which currently enrolled.

Any student, following a decision on campus on the residence classification, may make written appeal to: the dean of admissions and records. Following a final decision on the Fullerton campus, the student may make further written appeal to the Office of General Counsel, 400 Golden Shore, Long Beach, CA 90802, within 120 calendar days of notification of the final decision on campus of the classification. The Office of General Counsel may make a decision on the issue, or it may send the matter back to the institution with instructions for a further review on campus. Students classified incorrectly as residents or incorrectly granted an exception from nonresident tuition are subject to reclassification as nonresidents and payment of nonresident tuition in arrears. If incorrect classification results from false or concealed facts, the student is subject to discipline pursuant to Section 41301 of Title 5 of the California Administrative Code. Resident students who become nonresidents, and nonresident students qualifying for exceptions whose basis for so qualifying changes, must immediately notify the admissions office. Applications for a change in classification with respect to a previous term are not accepted.

The reader is cautioned that this summation of rules regarding residency determination is by no means a complete explanation of their meaning. One should also note that changes may have been made in the rate of nonresident tuition, in the statutes, and in the regulations between the time this catalog is published and the relevant residence determination date.

Admission to Credential Programs

Admission to the university as a student does not constitute admission to the teaching credential program. Students who plan to work toward teaching credentials must apply to the Division of Teacher Education following procedures available from the division.

Cancellation of Admission

A student admitted to the university for a given semester but who does not register in the specified semester will have the admission canceled. The student must file a new application form when again seeking admission and must follow the complete application procedure and meet the then current admission requirements.

Honors at Entrance

Honors at entrance are awarded to both freshman and transfer students who have demonstrated outstanding achievement in past academic work. For first-time freshmen with no previous college units earned, a grade point of 3.5 on a five-point scale must be earned in the coursework considered for admission to the university. Students who have completed fewer than 56 transferable semester units of credit must meet the grade-point average criteria for first-time freshmen and must also have earned a 3.5 grade-point average on all college work attempted. Students who have completed 56 or more transferable semester units are eligible if a grade-point average of 3.5 is earned in all college work completed.

Evaluation of Transfer Credits

The Office of Admissions and Records will evaluate previous college work in relation to the requirements of Cal State Fullerton. All degree candidates will be issued a credit summary during the first semester of attendance which serves as a basis for determining remaining requirements for the student's specific objectives.

Once issued to a student, the evaluation remains valid as long as the student enrolls at the date specified, pursues the objective specified, and remains in continuous attendance. The student will not be held to additional graduation requirements unless such requirements become mandatory as a result of changes in the California Administrative Code or the California Education Code. If the student does not remain in continuous attendance and has not applied for and been granted a formal leave of absence, the evaluation issued upon readmission will specify the remaining requirements for the student's objectives.

In view of the foregoing regulations, the student should notify the Office of Admissions and Records immediately of a change in the objective specified in the evaluation. While the evaluation for a student remains valid, the student is held responsible for complying with all changes in regulations and procedures which may appear in subsequent catalogs.

Acceptance of Credit

Credit for work completed at accredited institutions, other than coursework identified by such institutions as remedial or in other ways as being nontransferable, will be accepted toward the satisfaction of degree and credential requirements at the university within limitations of residence requirements and community college transfer maximums.

Transfer of Credit From a Community College

Upper division credit is not allowed for courses taken in a community college. Credential credit is not allowed for courses in professional education taken in a community college. This does not invalidate credit for preprofessional courses taken at a community college, such as introduction to education, art or design, arithmetic, or music for classroom teachers. After a student has completed 70 units of college credit at a community college, no further community college units may be accepted for unit credit.

Credit for Military Service

Students who have been in active military service for at least one year may be granted six units of undergraduate credit. Courses taken in service schools may be given credit on the basis of an evaluation which determines that they are of university level. Any credit for military experience will be given only upon request. Records verifying such experience must be filed with the Office of Admissions and Records.

Credit for Extension and Correspondence Courses

The maximum amount of credit through correspondence and extension courses which may be allowed toward the bachelor's degree is 24 units, if otherwise applicable.

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Credit by Advanced Placement

Students who have successfully completed courses in the advanced placement program of the College Entrance Examination Board (defined as receiving a score of 3, 4 or 5) shall be granted six units of credit for each advanced placement course toward graduation, advanced placement in the university's sequence of courses, and credit for curriculum requirements.

Credit by Examination

Students may be granted credit for a course toward graduation and to meet curriculum requirements by the satisfactory completion of a challenge examination in that course requirement. The examinations are to be comprehensive and administered by the department in which the course is offered. Well in advance of the challenge examination the student will secure written approval of the major adviser and the chair of the department in which the course is offered. Upon the successful completion of the examination, the notation on the permanent record of the student will be made as "CR" for the course. "CR" is to indicate credit for the course with a passing grade. Credit by examination may not be used to fulfill the minimum residence requirements. The challenge examination for any course may be attempted only once. A maximum of 30 credits can be earned by challenge examination, including those achieved by advanced placement.

College Level Examination Program

The university shall accept three semester units of credit for each of the following College Level Examination Program (CLEP) examinations, subject to achievement of the scores indicated, provided the examination was not taken previously within one calendar year and that degree credit has not been granted for previous coursework at the equivalent or at a more advanced level than for the examination in question.

Examination	*Passing score*
Mathematics General Exam (1975 edition)	50 (on both parts of the examination)
College Algebra-Trigonometry	49
Introductory Calculus (including essay)	48
Statistics (including essay)	49
General Chemistry	48

Cal State Fullerton may grant additional credit and advanced standing based upon CLEP examination results using as minimum standards:

General Examinations

1. That the student achieve a score at or above the 50th percentile, college sophomore norms.
2. That no unit credit be granted for any test in the general examinations, but that six units of general education requirements be waived for each test completed with the appropriate score.

Subject Examinations

1. That the student submit a score at or above the 50th percentile of those in the norming group who earned a mark of C or better.
2. That equivalency to Cal State Fullerton courses be determined by the appropriate academic department in conjunction with the Office of Admissions and Records.
3. That university credit shall have not been previously earned in the courses in question.

In no case will credit so awarded count towards residence creditl.

English Equivalency Examination

Students passing the California State University and Colleges English Equivalency Examination shall be awarded six semester units of credit provided credit has not been granted previously at the equivalent or at more advanced levels.

Science/Mathematics Equivalency Examinations

Students may receive credit by examination in general mathematics, algebra-trigonometry, calculus-analytic geometry, statistics, chemistry, biology, and calculus by passing California State University and Colleges approved examinations. Each test offers those who pass three semester units of credit, provided credit has not previously been granted at the equivalent or at more advanced levels.

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REGISTRATION

Orientation

Various opportunities are provided for new students to obtain information relating to academic programs, student services and activities, and other aspects of university life. Information about specific programs will be published separately.

Registration

Class Schedule: A complete listing of courses offered will be found in the *Class Schedule* published prior to the start of each semester. This publication, which may be purchased in the Titan Bookstore, also states detailed information pertaining to the semester including class enrollment and fee payment procedures.

It is important that students familiarize themselves not only with the academic policies stated in this catalog but also with the requirements and procedures in the *Class Schedule* as both are used in the selection of classes for the semester.

Registration: Registration is made up of two steps—class enrollment and fee payment. At registration, every student is required to file a study program with the office of the registrar. The filing of a program by the student and its acceptance by the university obligates the student to perform the designated work to the best of his or her ability. It is emphasized that registration does not become official until all fees have been paid.

Computerized Records System

The student records system, including the registration process, is computer based. This means that records and reports are produced from files maintained in the university Computer Center. It is a fact of life in a large institution such as Fullerton that use of the computer is essential. Thus, there is a requirement for data cards, code numbers, student file numbers and for meeting precise criteria for data input, which introduces an element of the impersonal in the student records system. Despite these conditions, every effort is made to provide courteous, efficient and personalized service to students and the entire university community. To assist in providing this service, students are urged to be extremely careful and accurate in preparing forms, especially the official program and change of program forms. Accurate input of information will assure each student of error-free records.

Controlled Entry Classes

In general, all courses listed in the semester *Class Schedule* shall be available to all matriculated students except for appropriate academic restrictions as stated in the *General Catalog.* These restrictions, including special qualifications and other academic limitations, on class entry shall be published in the *Class Schedule* as appropriate footnotes to the designated class or class section and shall be consistent with the *General Catalog.*

Late Registration

The last day to register late each semester will be announced in the *Class Schedule.* Late registrants will find themselves handicapped in arranging their programs and must pay a $5 late registration fee in addition to regular fees.

Changes in Program

Each student is responsible for the program of courses listed at registration. Changes may not be made thereafter without the filing of a change of program (add-drop) form in the office of the registrar following procedures announced in the *Class Schedule.*

Failure to file an official change of program request in the case of dropped classes may result in a penalty mark being recorded. Through the fourth week of instruction in the semester no record of enrollment is made of dropped classes. After four weeks students are expected to complete all courses in which they are enrolled. However, for reasons of ill health or reasons involving other serious and unforeseen problems, the student may drop a class or classes and receive a W (Withdrawal) by obtaining the approval and signature(s) involved and filing the change with the registrar on the form provided.

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No classes may be dropped during the last three weeks of instruction, although complete withdrawal from the university is still possible.

Concurrent Enrollment

A student enrolled at the university may enroll concurrently for additional courses at another institution only with advance written approval from the student's academic adviser on official forms filed in the office of the registrar. Permission will not be granted when the study load in the proposed combined program of study exceeds the units authorized at this university.

Auditors

A properly qualified student may enroll in classes as an auditor. The student must meet the regular university admission requirements and must pay the same fees as other students.

Handicapped Students

Students physically handicapped who require assistance should get in touch with the Handicapped Student Services Center prior to the announced semester registration period so that special arrangements for them can be made.

VETERANS

California State University, Fullerton is approved by the Bureau of School Approvals, State Department of Education, to offer programs to veterans seeking benefits under state and federal legislation. All students seeking veterans' benefits must have a degree or credential objective.

Applications for benefits should be filed well in advance of the semester in which the veteran plans to use these benefits in order to have the authorization at the time of registration.

RESERVE OFFICERS' TRAINING CORPS

California State University, Fullerton does not have a Reserve Officers' Training Corps program. However, through arrangements with the University of Southern California, two-, three- and four-year Air Force Reserve Officers Training Corps (AFROTC) programs are available to all qualified undergraduate students for the university.

Further, in cooperation with the University of California, Los Angeles, California State University, Long Beach, and The Claremont Colleges, Army ROTC programs are available to Fullerton students at these three institutions. Academic units earned in these programs are counted as elective credit towards the baccalaureate. Additional information may be obtained from the Office of Admissions and Records.

SCHEDULE OF FEES, 1977–78

Tuition is not charged to legal residents of California. The following are the fees and expenses currently assessed. At the time of publication of this catalog the schedule of fees for 1978–79 had not been established. The 1978–79 schedule of fees will be published in the *Class Schedule* for that year.

All Students

Application fee (nonrefundable)	
Payable by check or money order at time application is made	$20
Student services fee	*Semester*
0 to 6.0 units	$57
6.1 or more units	$72
Facilities fee	$3
Associated Students fee	$10
University Union fee	$10

Nonresident and Foreign Visa Students

Nonresident tuition fee (in addition to fees charged all students)	
15 or more units, maximum per semester	$787.50
Fewer than 15 units, per unit	$52.50
Per academic year	$1,575

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Summer Session

Course fee per unit	$33
Associated Students fee	$3
University Union fee	$5

Extension Fees

Per unit	$33

Other Fees or Charges

Campus service card	$1
Late registration fee (in addition to other fees listed above)	$5
Check returned from bank for any cause	$5
Transcript fee	$1
Graduation and diploma fee	$7
Failure to meet administratively required appointment or time limit	$2

Auditors pay the same fees as others.

Fees are subject to change by the Trustees of The California State University and colleges without advance notice.

Alan Pattee Scholars

Children of deceased public law enforcement or fire suppression employees, who were California residents and who were killed in the course of law enforcement or fire suppression duties, are not charged fees or tuition of any kind at any California state university or college, according to the Alan Pattee Scholarship Act, Education Code Section 23762. Students qualifying for these benefits are known as Alan Pattee scholars. For further information, get in touch with the dean of admissions and records, who determines eligibility.

Waiver of Fees

Section 10652 of the California Education Code provides for the waiver of certain fees other than nonresident tuition, for certain veterans' dependents. Those who meet one or more of the following criteria should present to the university registrar a certificate of eligibility obtained from the Division of Educational Assistance, California Department of Veterans Affairs on or before the date of registration.

A. Widows or dependents of deceased veterans killed in action or because of a service-connected disability who have resided in California for five years immediately preceding application. Also covers wives of totally disabled veterans and dependents of POW's and MIA's. Dependents must apply between the ages of 16 and 21. Benefits for dependents are terminated at completion of education or age 27, whichever comes first.
B. Children of veterans who have service-connected disabilities and whose annual income not including governmental compensation for such service-connected disability, does not exceed $5,000.
C. Children of veterans killed in action or because of a service-connected disability, where the annual income of such children, including the value of any support received from parents and the annual income of surviving parents, does not exceed $5,000. No limitations on age or length of residency.

Refund of Fees

Fees may be refunded only as authorized by Sections 41802, 41803, and 41913 of Title 5, California Administrative Code. Whether a fee may be refunded and the circumstances under which a fee or any part of a fee may be refunded, vary depending on the particular fee involved. Requirements governing refund may include such matters as the reason for seeking a refund (for example, death, disability), the number of days of instruction which have elapsed before application for refund is made (for example, requests for refund of student services fees, student body organization fees, and student body center fees must be made no later than 14 days following the commencement of instruction and requests for refund of extension course tuition fees must be made prior to the fourth meeting of the class), and the degree to which the campus has provided the services for which the fee has been charged. Details concerning the fees which may be refunded, the circumstances under which fees may be refunded, and the appropriate procedure to be followed in seeking a refund may be obtained from the registrar.

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Parking Fees

Semester pass (nonreserved spaces):	
Regular and limited students (4-wheeled vehicle)	$15.00
Regular and limited students (2-wheeled vehicle)	3.75
Coin operated gate per exit	.25
Summer session, each six-week period (4-wheeled vehicle)	6.00
Summer session, each six-week period (2-wheeled vehicle)	1.50

Typical Student Expenses

Typical school year budgets for California residents living at home or making other housing arrangements will vary widely. It is estimated that, including a $1,400 yearly allowance for room and board, the cost will approximate $2,500 for an unmarried person. Nonresident students must also allow for nonresident tuition.

The Student Services Fee

The student services fee was established in 1975 by the Board of Trustees of The California State University and Colleges in lieu of the materials and service fee. The student services fee provides financing for the following student services not covered by state funding.

1. *Social and Cultural Development Activities.* Provides for the coordination of various student activities, student organizations, student government and cultural programs.
2. *Counseling.* Includes the cost of counselors' salaries and clerical support, plus operating expenses and equipment.
3. *Testing.* Covers the cost of test officers, psychometrists, clerical support, operating expenses, and equipment.
4. *Placement.* Provides career information to students and faculty for academic program planning and employment information to graduates and students.
5. *Financial Aids Administration.* Includes the cost of the counseling and business services provided in connection with the financial aid programs.
6. *Health Services.* Provides health services to students and covers the cost of salaries of medical officers and nurses and related clerical and technical personnel, as well as operating expenses and equipment.
7. *Housing.* Supports personnel who provide housing information and monitor housing services available to students.
8. *Student Services Administration.* Covers 50 percent of the cost of the office of the dean of student services, which has responsibility for the overall administration of student services.

AVERAGE ANNUAL COSTS AND SOURCES OF FUNDS

The 19 campuses of The California State University and Colleges are financed primarily through funding provided by the taxpayers of California. For the 1976–77 year, the total cost of operation is $740 million, which provides continuing support for 239,410 full-time equivalent (FTE*) students. This results in an average cost per FTE student of $3,091 per year. Of this amount, the average student pays $285. Included in this average student payment is the amount paid by nonresident students. The remaining $2,806 in costs are funded by state and federal taxes.

Averages do not fit all students alike or even any specific student. To arrive at an average figure that is meaningful, the costs outlined above exclude "user fees" for living expenses, housing, and parking, as well as costs for extension and summer session work. Computations are based on full-time equivalent students, not individuals, and costs are prorated by system totals, not by campus. The average costs for a full-time equivalent student in the system are shown in the following chart:

* For budgetary purposes, full-time equivalent (FTE) translates total individual enrollment into total academic student load. The term assumes that a full-time student in The California State University and Colleges is enrolled for 15 units of academic credit. Some students enroll for more than 15 units; some students enroll for fewer than 15 units.

1976/77 PROJECTION OF TOTAL COSTS OF CAMPUS OPERATION (Including Building Amortization)

Projected Enrollment: 239,410 FTE

Source	*Amount*	*Average Cost Per Student (FTE *)*	*Percentage*
State appropriation (support)	$613,824,941	$2,564	82.9
State funding (capital outlay) †	30,029,210	125	4.1
Student charges	68,260,575	285 ‡	9.2
Federal (financial aids)	27,881,227	117	3.8
Total	$739,995,953	$3,091	100.0

* For budgetary purposes, full-time equivalent (FTE) translates total individual enrollment into total academic student load. The term assumes that a full-time student in The California State University and Colleges is enrolled for 15 units of academic credit. Some students enroll for more than 15 units; some students enroll for fewer than 15 units.

† The system's wide range of facilities and equipment on the 19 campuses is currently valued at approximately $1.17 billion, excluding the cost of land. Amortized over a 40-year period, they are valued at $125 per FTE student.

‡ The average costs paid by a student include the student services fee, health facilities fee, college union fee, student body fee, and nonresident tuition. This amount is derived by taking the total of all student fees and dividing by the total full-time equivalent student enrollment. Individual students may pay more or less than $285 depending on whether they are part-time, full-time, resident or nonresident students.

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RECORDS AND REGULATIONS

ENROLLMENT DEFINITIONS AND REGULATIONS

Unit of Credit

Each semester unit represents three hours of university work per week for one semester. Courses are of three types:

(1) Lecture—one hour in class plus two hours of study.
(2) Activity—two hours of class plus one hour of study.
(3) Laboratory—three hours in class.

Some courses may combine two or more of these types. All required courses carry unit credit.

Classification in the University

Undergraduate students who have completed 0–29½ semester units of work are classified as freshmen, 30–59½ semester units as sophomores, 60–89½ semester units as juniors, and 90 or more as seniors.

Maximum Number of Course Units

Undergraduate students' requests to enroll for more than 19 units must be approved by the student's adviser and the department chair of the major. If such requests are denied, appeals may be made to the appropriate school dean. (Undeclared majors must receive the approval of the director of academic advisement.) The minimum full-time program is 12 units.

A student whose academic record justifies a study list in excess of the normal may request to be allowed to enroll for extra units. Request forms may be obtained from the office of the registrar and are submitted during the first week of instruction. In general, only students with superior academic records are allowed to enroll for more than the maximum. In addition, the need to enroll for the extra study must be established. Factors such as time spent in employment or commuting, the nature of the academic program, extracurricular activities and the student's health should be considered in planning a study program. Students who are employed or have outside responsibilities are advised to reduce their program of study.

The minimum full-time program of study for graduate students is defined in the "Graduate Policies and Procedures" section of this catalog.

Undergraduate Students Taking Graduate Level Courses

Graduate level (500) courses are organized primarily for graduate students. Undergraduate students may be permitted to enroll in a graduate level course if:

1. They are within nine units of completion of graduation requirements, or
2. They are exceptionally qualified seniors whose undergraduate work in the related field or fields has been of 3.5 grade-point average or better, and whose cumulative overall grade-point average is at least 3.25.

Such cases shall require specific approval by the instructor and also the chair of the department or dean of the school in which the course is offered and by the chair or dean of the student's major department or school.

Graduate level courses taken under 1. above may be applied to a graduate program if approved under graduate studies policies.

Graduate level courses taken under 2. above may be applied to the undergraduate program only.

Class Attendance

While class attendance is not recorded officially by the university, regular attendance in class is often essential to success in a course. The policy on class attendance is within the discretion of the individual faculty member and shall be announced by the faculty member at the first class meeting of the semester.

Initial Class Meeting

It is especially important that students attend the first meeting of a class. Students absent from the first

meeting and who fail to notify the instructor or departmental office no later than 24 hours after the class meeting may be denied admission to the class. Instructors may deny admission to absentees in order to admit any persons on waiting lists in their places.

Instructor-Initiated Drops

A student who registers for a class and whose name appears on the first-day-of-class list should attend all class meetings in the first week or the first two class meetings, whichever alternative covers the longer time span. If the student is absent without notifying the instructor or departmental office within 24 hours after any meeting missed, the student may then be dropped administratively from the class by the instructor. This administrative withdrawal shall be without penalty and must be filed by the instructor with the registrar no later than the 20th day of instruction.

GRADING POLICIES

Grading System

Every student of the university will have all coursework evaluated and reported by the faculty in terms of letter grades or administrative symbols.

When, because of circumstances, a student does not complete a particular course, or withdraws, certain administrative symbols may be assigned by the faculty. Grades and symbols are listed in the chart below together with grade-point values. The chart also illustrates the academic bookkeeping involved for all grades and symbols used.

The university uses a combination of traditional and nontraditional grading options as follows:

Traditional

Option 1. Letter Grades: A, B, C, D, and F

Nontraditional

Option 2. Letter Grades: A, B, C, and NC (No Credit) for undergraduate courses; A, B, and NC for graduate level courses.

Option 3. CR (Credit) for satisfactory and NC (No Credit) for less than satisfactory work.

Grade or Symbol		*Units Attempted*	*Units Earned*	*Grade Point Value*	*Progress Point Value*	*Full Credit*
Option 1	*Option 2*					
Satisfactory Grade						
A	A	Yes	Yes	4	4	Yes
A	B	Yes	Yes	3	3	Yes
C	C‡	Yes	Yes	2	2	Yes
Unsatisfactory Grade						
D		Yes	Yes	1	1	No
	NC	*	No	None	0	No
F		Yes	No	0	0	No
Option 3						
CR		*	Yes	None	2	Yes
NC		*	No	None	0	No
Administrative Symbols						
I (Incomplete authorized)		†	No			
U (Unauthorized incomplete)		Yes	No	0	0	No
W (Withdrawal)		No	No	None	None	No
AU (Audit)		No	No	None	None	No
SP (Satisfactory Progress)		No	No	None	None	No
RD (Report Delayed)		No	No	None	None	No
TOTALS		*Used In GPA*	*Counted Toward Objective*	*Used in GPA*	*Counted Toward Progress*	

* Credit/No Credit course units are not included in grade-point computations; however Credit/No Credit course units attempted are included in progress-point computations.

† If not completed within one calendar year the I will be counted as an F (or NC) for grade-point and progress-point calculation.

‡ Undergraduate courses only.

Selection of a grading option, with certain exceptions, is the responsibility of the student. Graduate students must use option 1 for courses that are on study plans leading to master's degrees.

Exceptions are those courses designated by the faculty to be graded solely on either an option 2 or option 3 basis. These courses will be so designated in the *Class Schedule* (and shall not be changed by the faculty after publication of the *Class Schedule*) for each semester and may be included in major, core, or special program requirements.

The faculty shall grade all students using the traditional A, B, C, D, or F grades except in Credit/No Credit courses, and the registrar shall make the necessary changes from A, B, C, D or F, converting A, B, C to Credit, and D and F to No Credit in undergraduate courses; and A, B to Credit, and C, D, and F to No Credit in graduate level courses. In those courses offered only on a Credit/No Credit basis, the instructor shall assign grades of CR or NC or appropriate administrative symbols, e.g., I (Incomplete), SP (Satisfactory Progress).

Nontraditional Grade Options

Nontraditional grading options are available to undergraduate students, nonobjective graduate students, and to classified graduate students for courses not included in the approved study plan. Any student attempting a course using either of the nontraditional grading options must meet the prerequisites for that course. Each student shall be permitted to select courses in subjects outside of the major requirements for enrollment on a Credit/No Credit basis (grading option 3). The phrase "major requirements" shall be taken to include core plus concentration (or option) requirements in departments using such terms, and professional course requirements in teacher education curricula. A student in any one term may take a maximum of two courses under option 2, or one course from option 2 and one course from option 3 (but not two courses under option 3). In addition, he may enroll in a required course offered only under option 3; however, a maximum of 36 units of Credit/No Credit courses including those transferred from other institutions may be counted toward the baccalaureate.

Students shall inform the registrar up to the end of the fourth week of classes regarding the selection of grading options in designated courses. If a student does not do so, option 1 will be used.

A, B, C, No Credit (Option 2)

There is no difference in grade-point values or other essentials between letter grades in this option and the traditional letter grades. The principal differences are that NC (No Credit) replaces both the D and F as an unsatisfactory grade and has zero progress-point value in undergraduate courses, and replaces C, D and F in graduate courses. No Credit grades are included in progress computations.

Credit/No Credit (Option 3)

Under option 3 the term "Credit" signifies that the student's academic performance was such that he or she was awarded full credit in undergraduate courses with a quality level of achievement equivalent to a C grade or better. In all graduate level courses "Credit" signifies academic performance equivalents to B or A grades. No Credit signifies that the student attempted the course but that the performance did not warrant credit toward the objective. As in option 2, No Credit (NC) grades are included in progress point computations.

Ordinarily, a student shall be limited to one non-major course per term using this option, exclusive of courses offered only on a Credit/No Credit basis.

When an undergraduate student changes his or her major field of study to one where he or she has completed courses with CR grades, such lower division courses shall be included in major requirements. Upper division courses may be included at the option of the department upon petition by the student.

ADVISORY CAUTION: Undergraduate students who plan to pursue graduate or professional studies later are advised to be selective in opting for courses on a Credit/No Credit basis. As a general rule (advisory only), coursework that is preparatory or prerequisite to advanced specialized study should be completed and evaluated on a letter grade basis and not Credit/No Credit.

ADMINISTRATIVE SYMBOLS

Incomplete Authorized (I)

The symbol I signifies that a portion of required course work has not been completed and evaluated in the prescribed time period owing to unforeseen but fully justified reasons and that there is still a possibility of earning credit. It is the responsibility of the student to bring pertinent information to the instructor and to reach agreement on the means by which the remaining course requirements will be satisfied. A final grade is assigned when the work agreed upon has been completed and evaluated.

An Incomplete must be made up within one calendar year immediately following the end of the term in which it was assigned. This limitation prevails whether or not the student maintains continuous enrollment. Failure to complete the assigned work will result in an Incomplete being counted as equivalent to an F (or an NC) for grade point average and progress point computations.

A grade of Incomplete may be given only when, in the opinion of the instructor, a student cannot complete a course during the semester of enrollment for reasons beyond the student's control. Such reasons are assumed to include: illness of the student or of members of the student's immediate family, extraordinary financial problems, loss of outside position, and other exigencies. In assigning a grade of I, the instructor shall file with the department for future reference and student access a Statement of Requirements for Completion of Course Work. The requirements shall not include retaking the course. The instructor will also designate a time limit (up to one year) for completing requirements. Upon request, a copy of the document will be furnished to the student. The student should review this statement at the earliest opportunity.

The statement of requirements will include an indication of the quality of the student's work to date. This not only provides an interim evaluation for the student but assists the department chair in assigning a final grade in those instances where the instructor is no longer available.

When the specific requirements are completed, the instructor will report a change of grade. The responsibility for changing the Incomplete grade rests with the instructor.

Withdrawal (W)

The symbol W indicates that the student was permitted to drop the course after the 20th day of instruction (university census date) with the approval of the instructor and department chair. It carries no connotation of quality of student performance and is not used in calculating grade point averages or progress points. Withdrawal is permitted during the first 20 days of classes without record of enrollment.

After the first 20 days of classes, students are expected to complete all courses in which they are enrolled. However, for serious and compelling reasons (which include but are not limited to serious accident or illness, death in the immediate family, serious domestic problems, change in work hours or work conditions, and legal confinement), the student may, by obtaining appropriate authorizations, withdraw from a class or classes and receive the symbol W (withdrawal). Authorization to withdraw after the census date and prior to the last three weeks of instruction, shall be granted only with the approval of the instructor and the department chair or school dean. All requests for permission to withdraw under these circumstances and all approvals shall be made in writing on the Change of Program form and shall briefly state the reason for the withdrawal. The completed Change of Program form shall be filed at the registrar's office by the student or his proxy.

Withdrawals shall not be permitted during the final three weeks of instruction except in cases such as accident or serious illness where the assignment of an Incomplete is not practicable. Ordinarily, withdrawals in this category will involve total withdrawal from the campus, except that Credit, or an Incomplete may be assigned for courses in which sufficient work has been completed to permit an evaluation to be made. Requests for permission to withdraw from all classes under these circumstances, with authorizations as described above, shall be made on the Change of Program form and shall be filed by the student, or his proxy, with the registrar.

Unauthorized Incomplete (U)

The symbol U indicates that an enrolled student did not withdraw from the course but failed to complete course requirements. It is used when, in the opinion of the instructor, completed assignments or course activities or both were insufficient to make normal evaluation of academic performance possible. For purposes of grade point average and progress point computations this symbol is equivalent to an F.

A student may petition for a retroactive withdrawal provided the student can document both the

serious and compelling reason or circumstances that required the withdrawal and the date of such withdrawal. Such a petition must be filed within 30 days after the first class day of the following semester.

Petitions for retroactive withdrawal may be submitted for withdrawal in individual courses.

> **ADVISORY NOTE:** Students who unofficially withdraw and who are receiving financial aid or benefits which are dependent on completion of specified course units are advised that they may have such benefits suspended and may be subject to repayment of allowances received after date of unofficial withdrawal.

Audit (AU)

The symbol AU is used by the registrar in those instances where a student has enrolled in a course either for information or other purposes not related to the student's formal academic objective. Enrollment as an auditor is subject to the permission of the instructor, provided that enrollment in any course as an auditor shall be permitted only after students otherwise eligible to enroll in the course on a credit basis have had an opportunity to do so. Auditors are subject to the same fee structure as credit students and regular class attendance is expected. Once enrolled as an auditor, a student may not change to credit status unless such a change is requested prior to the last day to add classes. A student who is enrolled for credit may not change to audit after the fourth week of instruction. An auditor is not permitted to take examinations in the course; therefore, there is no basis for evaluation nor a formal grade report.

Satisfactory Progress (SP)

The SP symbol is used in connection with thesis, project or similar courses that extend beyond one academic term. It indicates that work is in progress, and has been evaluated and found to be satisfactory to date, but that assignment of a final grade must await completion of additional coursework. Cumulative enrollment in units attempted may not exceed the total number applicable to the student's educational objective. Work is to be completed within a stipulated time period which may not exceed one year except for graduate degree thesis or project for which the time may be up to two years, but may not exceed the overall time limit for completion of all master's degree requirements. Any extension of time limit must receive prior authorization by the dean of the school (or the dean's designee) in which the course is offered.

Report Delayed (RD)

The RD symbol is used in those cases where a delay in the reporting of a final grade is due to circumstances beyond the control of the student. The symbol is assigned by the registrar and should be replaced by a more appropriate grading symbol as soon as possible. An RD shall not be included in calculations of a grade-point average or in determination of progress points.

Grade Reports to Students

A report of the final grades assigned in classes is sent to each student at the end of each semester. Many students also leave self-addressed post cards for instructors of specific courses to send them earlier reports.

Examinations

Final examinations, if required by the instructor, will be given at times scheduled by the university. Once established, the final examination schedule may not be changed unless approved by the dean of the school. No makeup final examination will be given except for reason of illness or other verified emergencies.

Grade-Point Averages: Repetition of Courses

The numerical grade-point values in the grading system chart are intended to give an exact determination of a student's scholastic standing. To compute the grade-point average for coursework at Fullerton, the grade-point value of each grade within the exception noted below is multiplied first by the unit value of each course to obtain a total of all grade points earned. The total is then divided by the total units attempted in all courses in which grades of A, B, C, D or F were received. The resulting figure is the grade-point average (GPA).

The exception in grade-point computations is as follows: undergraduate students may repeat, using

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the traditional grading system (A, B, C, D, F), those courses for which grades of D or F were earned. In computing the grade-point average of a student who repeats courses in which he or she received D or F, only the most recently earned grades and grade points shall be used for the first 16 units repeated. Nevertheless, the original grade on the academic record shall not be changed or eradicated.

In the case of any additional repetition (beyond the 16 unit limitation), both grades are considered in computing grade-point averages. However, successful repetition of a course originally passed carries no additional unit credit toward a degree or credential except for certain courses such as independent study or practicum (specified in this catalog as "may be repeated for credit").

Grade Changes

All grades except Incomplete are final when filed by the instructor in the end-of-term course grade report. Each student is notified by mail of the grades earned during the term. These grades become a part of the official record and may be changed only upon official authorization by the instructor and department chair.

ACADEMIC RENEWAL

Under certain circumstances, the university may disregard up to two semesters or three quarters of previous undergraduate coursework taken at any college or university from all considerations associated with requirements for the baccalaureate degree. These circumstances are

1. that the student has requested the action formally and has presented evidence that work completed in the term(s) under consideration isubstandard and not representative of present scholastic ability and level of performance; and
2. that the level of performance represented by the term(s) under consideration was due to extenuating circumstances; and
3. that there is every evidence that the student would find it necessary to complete additional terms to qualify for the baccalaureate if the request were not approved.

Final determination that one or more terms shall be disregarded in the determination of eligibility for graduation shall be based upon a careful review of evidence by the Review Committee for Academic Renewal and shall be made only when:

1. five years have elapsed since the most recent work to be disregarded was completed; and
2. the student has completed at Fullerton, since the most recent work to be disregarded was completed, 15 semester units with at least a 3.0 GPA, or 30 semester units with at least a 2.5 GPA, or 45 semester units with at least a 2.0 GPA. Work completed at another institution cannot be used to satisfy this requirement.

When such action is taken, the student's permanent academic record shall be annotated so that it is readily evident to all users of the record that no work taken during the disregarded term(s), even if satisfactory, may apply toward baccalaureate requirements. However, all work must remain legible on the record ensuring a true and complete academic history.

TRANSCRIPTS

Official transcripts of courses taken at the university are issued only with the written permission of the student concerned. Partial transcripts are not issued. A fee of $1 for each transcript issued must be received before the transcript can be issued.

Normally transcripts are available within three working days, except at the end of the semester when the student should allow about 10 days after the last day of the semester.

Transcripts from other institutions, which have been presented for admission or evaluation, become a part of the student's permanent academic file and are not returned or copied for distribution. Students desiring transcripts covering work attempted elsewhere should request them from the institutions concerned.

CONTINUOUS RESIDENCY REGULATIONS

Good Standing

"Good standing" indicates that a student is eligible to continue and is free from financial obligation to the university. A student under academic disqualification, disciplinary suspension or disciplinary

expulsion is not eligible to receive a statement of good standing on transcripts issued by the university or on other documents.

Choice of Catalog Regulations for Meeting Degree Requirements

A student remaining in continuous attendance in regular sessions and continuing on in the same curriculum in any California state university or college, in any of the California community colleges or in any combination of California community colleges and The California State University and Colleges may, for purposes of meeting graduation requirements, elect to meet the graduation requirements of the California state university or college from which he or she will graduate in effect either at the time of his entering the curriculum or at the time of his graduation therefrom, except that substitutions for discontinued courses may be authorized or required by the proper college authorities.

Continuous Enrollment for Graduate Students

A graduate student with a degree objective is expected to maintain continuous enrollment in the university (summer sessions and extension excluded) until completion of the degree. If a student pursuing an advanced degree finds it impossible to attend during a certain semester, and is not eligible for a leave of absence, as detailed elsewhere in this catalog, he or she may request permission to register in Graduate Studies 700, a course number only and therefore has no unit credit.

If a graduate student who has completed student teaching and is pursuing a standard elementary or secondary teaching credential finds it impossible to enroll in courses leading to the credential during a certain semester, he or she may enroll in Credential Studies 701. This is a course number only with no unit credit. Students may not enroll in Credential Studies 701 for a third consecutive semester.

A graduate student who fails to register each semester has discontinued enrollment in the university.

Leave of Absence

A student may petition for a leave of absence and if approved may upon return continue under the catalog requirements that applied to the enrollment prior to the absence. A leave of absence may be granted for a maximum of one year. Illness is the only routinely approved reason for a leave of absence. Students should realize that an approved leave of absence does not reserve a place for them in the university; they must reapply.

Complete Withdrawal from the University

A student who wishes to withdraw from the university must complete a Change of Program form. See the section on refund of fees for possible refunds. No student may withdraw after the date shown on the university calendar as the last day of instruction. Complete withdrawal from the university is accomplished by following the procedures for dropping classes.

STUDENT HONORS

Dean's Honor List

Academic achievement is recognized with the publication each semester of a list of undergraduate students whose grade-point average for the previous term has been 3.5 or better. Students are notified in writing when they have earned this distinction. Eligibility is based on a minimum of 12 units of graded coursework.

Honors at Graduation

Honors at graduation have been defined by the Faculty Council in three classifications:

With honors	GPA 3.5
With high honors	GPA 3.85
With highest honors	GPA 4.0

ACADEMIC PROGRESS, PROBATION AND DISQUALIFICATION

For purposes of determining a student's ability to remain in the university both quality of performance and progress towards the educational objective will be considered.

Academic Probation

An undergraduate student shall be placed on academic probation if in any semester the cumulative grade-point average or the grade-point average at Cal State Fullerton falls below 2.0 (grade of C on a five-point scale), or if the student fails to earn twice as many progress points as all units attempted during that semester. The student shall be advised of probation status promptly and, except in unusual instances, before the start of the next consecutive enrollment period.

An undergraduate student shall be removed from academic probation and restored to clear standing upon achieving a cumulative grade-point average of 2.0 (C) in all academic work attempted, in all such work attempted at Cal State Fullerton, and is making satisfactory progress towards his or her educational objective by achieving at least twice as many progress points as units attempted during each semester.

A graduate student enrolled in a graduate degree program in either conditionally classified or classified standing shall be subject to academic probation if he or she fails to maintain a cumulative grade point average of at least 3.0 (grade of B on a five-point scale) in all units attempted after admission to the program.

Academic Disqualification

An undergraduate student on academic probation shall be subject to academic disqualification if:

1. As a lower division student (fewer than 60 semester hours of college work completed) he or she falls 15 or more grade points below a 2.0 (C) average on all college units attempted or in all units attempted at this institution, or fails to earn during any semester twice as many progress points as all units attempted in that semester.
2. As a junior (60 to 89½ semester hours of college work completed) he or she falls nine or more grade points below a 2.0 (C) average on all college units attempted or in all units attempted at this institution, or fails to earn during any semester twice as many progress points as all units attempted in that semester.
3. As a senior (90 or more semester hours of college work completed) he or she falls six or more grade points below a 2.0 (C) average on all college units attempted or in all units attempted at this institution, or fails to earn during any semester twice as many progress points as all units attempted in that semester.

A graduate student enrolled in a graduate degree program shall be subject to disqualification if while on probation sufficient grade points are not achieved to remove probationary status. Disqualification may be either from further registration in a particular program or from further enrollment in the university, as determined by appropriate campus authority.

A post-baccalaureate student (unclassified or classified) shall be disqualified if below a 2.0 (C) average in all units attempted at this institution as a post-baccalaureate student, or if he or she fails to earn during any semester twice as many progress points as all units attempted in that semester.

Student Conduct

The university properly assumes that all students are in attendance to secure a sound education and that they will conduct themselves as mature citizens of the campus community. Compliance with all regulations of the university is therefore expected. If, however, on any occasion a student or an organization is alleged to have compromised accepted universities standards, appropriate judiciary procedures shall be initiated through the established university process. Every effort will be made to encourage and support the development of self-discipline and control by students and student organizations. The dean of student services, aided by all members of the faculty and advised by the Student Affairs Committee of the faculty, is responsible to the president of the university for the behavior of students in their relationships to the university. The president in turn is responsible to the Chancellor and the Trustees of The California State University and Colleges who themselves are governed by specific laws of the State of California.

A list of specifically prohibited behavior is available upon request from the dean of student services and also is posted on the administrative bulletin boards in the breezeway of the Letters and Science Building and in the second-floor lobby of Langsdorf Hall. Prohibited behavior includes hazing, now defined as acts likely to cause physical or emotional harm.

Students have the right to appeal certain disciplinary actions taken by appropriate university authori-

ties. Regulations governing original hearings and appeal rights and procedures have been carefully detailed to provide maximum protection to both the indivisual charged and the university community. Information about the operation of the judicial system involving student discipline may be obtained in the Office of Special Projects.

Debts Owed to the University

From time to time the student may become indebted to the university. This could occur, for example, when the student fails to repay money borrowed from the university. Similarly, debts occur when the student fails to pay library fees, or when the student fails to pay for other services provided by the university at the request of the student. Should this occur, Sections 42380 and 42381 of Title 5 of the California Administrative Code authorize the university to withhold "permission to register, or use facilities for which a fee is authorized to be charged, to receive services, materials, food or merchandise or any combination of the above from any person owing a debt" until the debt is paid. For example, under these provisions the university may withhold permission to register, and may withhold other services such as grades, transcripts and certifications of enrollment. If a student feels that he or she does not owe all or part of a particular fee or charge, the student should consult the business office. The business office, or another office on campus to which the student may be referred by the business office, will review the pertinent information, including information the student may wish to present, and will advise the student of its conclusions with respect to debt.

RIGHT OF PETITION

Students may petition for review of certain university academic regulations when unusual circumstances exist. It should be noted, however, that academic regulations when they are contained in Title 5, California Administrative Code, are not subject for petition.

Petition forms are available in the Office of Admissions and Records and must first be reviewed and signed by the student's adviser. Action will then be taken on the petition and the student will be notified of this decision. A copy of the action will also be placed in the student's folder in the office of the registrar.

RIGHT OF NONCOMPLIANCE, RISK ACTIVITIES

Certain university activities either within or outside of the classroom may involve varying degrees of risk to the participants. It is university policy that the instructor directing such activities divulge fully to all potential participants the specific nature of such risks and obtain from them their expressed or implied consent prior to undertaking activities.

The student who at any time comes to believe that the risks, whether physical or psychological, are excessive has the responsibility to withdraw from participation at the time and to inquire of the instructor if there are alternative means of fulfilling the requirements without penalty. If there is none, the student may petition for withdrawal from the course without penalty or appeal for an appropriate modification of the activity. The appeal may be made either to the chair of the department concerned, or to the chair of the Committee on Activities Involving Human Subjects, or both.

RIGHT OF ACADEMIC APPEAL

Students who believe they have been graded capriciously or treated with obvious prejudice by faculty members or administrators may initiate steps for an academic appeal. In all cases the student should first make an effort to resolve the issue by consulting the faculty member or administrator concerned. If the issue cannot be resolved, students should then consult with the dean of student services or director of special projects.

PRIVACY RIGHTS OF STUDENTS

The federal Family Educational Rights and Privacy Act of 1974 (20 U.S.C. 1232g) and regulations adopted thereunder (45 C.F.R. 99), set out requirements designed to protect the privacy of parents and students concerning education records maintained by the institution. Specifically, the statute and regulations govern access to records maintained by the campus, and the release of such records. In brief, the law provides that the campus must provide students access to official records directly related to them and an opportunity for a hearing to challenge such records on the grounds that they are inaccurate, misleading or otherwise inappropriate; the right to a hearing under the law does not include any right to challenge the appropriateness of a grade as determined by the professor. The

law generally requires that written consent of the student be received before releasing personally identifiable data about the student from records to other than a specified list of exceptions. The institution has adopted a set of policies and procedures concerning implementation of the Act and the regulations on the campus. Copies of these policies and procedures may be obtained from the dean of student services. Among the types of information included in the campus statement of policies and procedures is: (1) the types of student records and the information contained therein; (2) the official responsible for the maintenance of each type of record; (3) the location of access lists which indicate persons requesting or receiving information from the record; (4) policies for reviewing and expunging records; (5) the access rights of students; (6) the procedures for challenging the content of student records; (7) the cost which will be charged for reproducing copies of records, and (8) the right of the student to file a complaint with the Department of Health, Education and Welfare. An office and review board have been established by the Department to investigate and adjudicate violations and complaints. The office designated for this purpose is: The Family Educational Rights and Privacy Act Office (FERPA), Department of Health, Education and Welfare, 330 Independence Avenue SW, Washington, D.C. 20201.

The campus is authorized under the act to release public directory information concerning students. Directory information includes the student's name, address, telephone listing, date and place of birth, major field of study, participation in officially recognized activities and sports, weight and height of members of athletic teams, dates of attendance, degrees and awards received, and the most recent previous educational agency or institution attended by the student. The above designated information is subject to release by the campus at any time unless the campus has received prior written objection from the student specifying information which the student requests not be released. Written objections should be sent to the dean of student services.

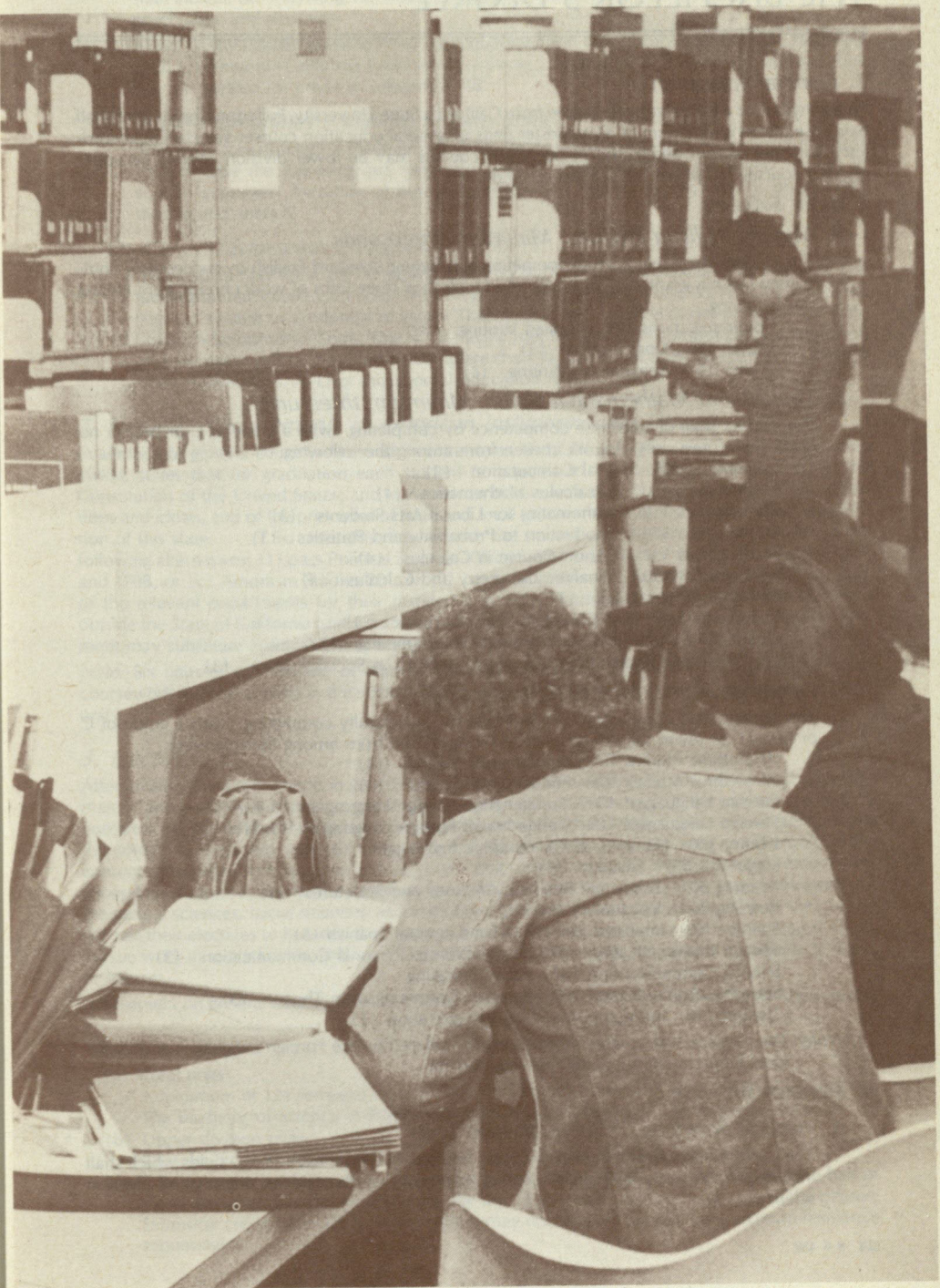
The campus is authorized to provide access to student records to campus officials and employees who have legitimate educational interests in such access. These persons are those who have responsibilities in connection with the campus' academic, administrative or service functions and who have reason for using student records connected with their campus or other related academic responsibilities.

REQUIREMENT AND USE OF SOCIAL SECURITY NUMBER

Applicants are requested to include their social security number in designated places on applications for admission pursuant to the authority contained in Title 5, California Administrative Code, Section 41201. The social security number is used on many campuses as a means of identifying records pertaining to the student as well as identifying the student for purposes of financial aid eligibility and disbursement and the repayment of financial aid and other debts payable to the institution. At Fullerton, student records are identified by a university-assigned student file number, not the social security number, though the latter is used in financial aids administration and in student payroll records.

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degree requirements



GRADUATION REQUIREMENTS FOR THE BACHELOR'S DEGREE

1. General Education

To be eligible for a baccalaureate degree from California State University, Fullerton, the student shall have completed a minimum of 45 semester units of general education courses selected in accordance with the pattern designated below. Such courses may be lower division courses or upper division courses for which the student qualifies.

I. Basic Subjects

A. Writing Skills in English Minimum: three units

The student shall demonstrate competence in writing standard English by successfully completing (with a grade of C or better) no fewer than three units of work chosen from among the following:

Communications 103 Applied Writing (3)
English 100 Composition (3)
English 103 Seminars in Writing (3)

B. Logical and Mathematical Skills Minimum: three units

The student shall demonstrate competence by completing (with a grade of C or better) no fewer than three units of work chosen from among the following:

Engineering 205 Digital Computation (3)
Mathematics 100 Precalculus Mathematics (4)
Mathematics 110 Mathematics for Liberal Arts Students (3)
Mathematics 120 Introduction to Probability and Statistics (3)
Mathematics 130 A Short Course in Calculus (4)
Mathematics 150A Analytic Geometry and Calculus (4)
Philosophy 210 Logic (3)
Philosophy 368 First Course in Symbolic Logic (3)
Quantitative Methods 264 Computer Programming (2)
Quantitative Methods 289 Computer Methods in Social Science (3)

C. Language Skills Minimum: three units

The student shall demonstrate competence by successfully completing (with a grade of C or better) no fewer than three units of work chosen from among the following:

Afro-ethnic Studies 104 Fundamental Swahili (4)
Afro-ethnic Studies 105 Fundamental Swahili (4)
Foreign Languages* 101 Fundamental Foreign Languages (3–5)
Foreign Languages* 102 Fundamental Foreign Languages (3–5)
Library 300 Elements of Bibliographic Investigation (3)
Linguistics 301 Sanskrit (3)
Reading 201 Academic Reading: Analyses and Structures (3)
Reading 202 Vocabulary Building (3)
Spanish 103 Intensive Review of Fundamental Spanish (5)
Speech Communication 100 Introduction to Personal Communication (3)
Speech Communication 102 Public Speaking (3)
Speech Communication 200 Personal Communication Theory (3)
Theater 110 Introduction to Oral Interpretation (3)

**Note:* The fundamental courses in any language offered by the Foreign Languages and Literatures Department will fulfill this requirement.

II. General Subjects

A. Natural Sciences Minimum: nine units

The student shall select a minimum of two courses, one from each of two fields which shall include the following: biological sciences, chemistry, earth sciences, physics and physical science.

B. Social Sciences Minimum: nine units

The student shall select a minimum of three courses, one from each of three fields which shall include the following: anthropology, economics, geography, history, political science, psychology and sociology.

Note: Of the courses taken to meet the requirements in U.S. history, Constitution, state and local government (California Administrative Code, Section 40404), a maximum of three units may be applied for credit in subsection IIB.

C. Arts—Humanities Minimum: nine units

The student shall select a minimum of three courses, one from each of three fields which shall include the following: art, language (English, intermediate or advanced courses in foreign languages), literature (American, comparative, English, foreign), music, philosophy, theatre and speech.

D. General Education Electives

The student may fulfill any remaining units required for general education by selecting any undergraduate course offered by the university for credit except courses which apply to the student's major or credential program. Transfer students certified under provisions of California Administrative Code, Title V, as having met the 40-unit minimum general education requirements will be required to complete the five additional units selected from two or more subsections, A–D of this general education requirement.

2. Statutory Requirements in American Institutions and Values

In addition to general education-breadth requirements, the California Administrative Code, Section 40404, states that for graduation each student is required to "demonstrate competence in the Constitution of the United States, and in American history including the study of American institutions and ideals, and of the principles of state and local government established under the Constitution of this state. . . ." To meet this requirement, the student at Fullerton must select one of the following alternatives: (1) pass Political Science 100 and either (a) History 180, or (b) History 170A and 170B, or (c) American Studies 201, or (2) pass comprehensive examinations offered by each of the relevant departments for their respective courses. Students transferring to Fullerton from outside the State of California and who have already completed a basic course in American government may substitute Political Science 300 for Political Science 100.

Note: Six units of coursework, or equivalent, must be completed to satisfy Section 40404; such coursework may be applied in the social sciences area of general education to a maximum of three units.

3. Electives

After fulfilling the requirements in general education, American institutions and values, and a specific major (and possibly a minor), each student is free to choose the rest of the courses needed to complete the 124 semester units required for graduation. Different majors vary considerably in both the number of units they require in their own and related fields. They also vary considerably in the amount of latitude or choice they permit in selecting courses to satisfy the major requirement. The general education requirement encourages great freedom of choice within the broad categories of the natural sciences, social sciences, arts and humanities, and basic subjects. Students at the university use their electives to broaden their general educations, deepen some aspect of their specialties, pursue work in related fields, and satisfy curiosities and enthusiasms for particular subjects or areas of interest.

Advisement on general education and electives is provided by the Office of Academic Advisement.

4. Units

(a) Total units
A minimum of 124 semester units is required for graduation with a bachelor of arts degree. The Bachelor of Science in Engineering requires a minimum of 132 semester units.

(b) Upper division units
Completion of a minimum of 40 units of upper division credit is required.

(c) Completion of a minimum of 24 semester units in residence is required. At least one-half of these units must be completed among the last 20 semester units counted toward the degree. Extension credit, or credit by examination, may not be used to fulfill the minimum residence requirement.

5. Scholarship

(a) A grade-point average of 2.0 or better is required on all units attempted, including those accepted by transfer from another institution.
(b) A grade-point average of 2.0 or better is required on all units in the major.
(c) A grade-point average of 2.0 or better is required on all units attempted at Cal State Fullerton

6. Major

Completion of all requirements for a major as specified by appropriate university authority is required. At least 24 units, including 12 at the upper division level, must be applied exclusively to the major requirements and may not be used to meet the requirements of general education.

7. Multiple Majors and Second Baccalaureate Degrees

Within the units required for the baccalaureate it is possible for a student to complete the requirements for more than one major within a degree program when the additional major is within the degree of the first major. At least 24 units, including 12 at the upper division level, in each major must be applied exclusively to the respective major and may not be used to meet requirements in other majors or in general education. The student shall declare the additional major with the appropriate department not later than the beginning of the student's final year of study. The completion of additional majors will be noted at the time of graduation by appropriate entries on the academic record and in the commencement program.

Second baccalaureate

(a) First degree completed elsewhere, second at Fullerton
Students seeking a bachelor's degree from Fullerton after having received a baccalaureate from another institution may qualify for graduation with the approval and recommendation of the faculty upon completion of the following:
(1) general education requirements
(2) all requirements in the major field of study
(3) residence and scholarship requirements

(b) Two baccalaureates from Fullerton
With the approval and recommendation of the faculty, a student may qualify for a second baccalaureate under the following circumstances:
(1) The second field of study is offered in a different degree (e.g., bachelor of arts to bachelor of science)
(2) At least 24 units are earned in residence after the conferral of the first degree
(3) All requirements of the major are fulfilled

Units included in second baccalaureate programs may not apply to graduate degrees or credential programs.

8. Minor

Completion of a minor field is not required for the baccalaureate degree at this time.

9. Graduation Requirement Check

A candidate for graduation must file an application for a graduation requirements check during registration week for the semester prior to the semester in which the student expects to graduate. The graduation and diploma fee is required when the application if filed. Application forms are available at the admissions and records information desk and in the registration center.

Candidates for the baccalaureate degree should refer to the semester *Class Schedule* for application filing dates. A senior should have completed at least 100 units (including the current work in progress) and a substantial portion of the major requirements before requesting a graduation check. If the candidate does not complete the requirements in the semester indicated, a change of graduation date must be filed in the office of the registrar.

10. Approval and Recommendation by the Faculty of the University

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THE PROGRAM OF MASTER'S DEGREES

Master's degree programs offered at Cal State Fullerton are listed on page 84 and described in the appropriate sections of this catalog under "University Curricula." Program descriptions and additional information are contained in the *Graduate Bulletin* copies of which are available in the Office of Admissions and the Graduate Office.

Master's degrees in other areas are under consideration and will be announced when approved.

STANDARDS FOR GRADUATE STUDY

Graduate study deals with more complex ideas and demands more sophisticated techniques, searching analysis, and creative thinking than undergraduate study. The research required is extensive in both primary and secondary sources and the quality of writing expected is high. The student is advised to consider these factors when deciding upon the amount of coursework to be undertaken during any one semester.

GENERAL REQUIREMENTS FOR THE MASTER'S DEGREE

General requirements for the master's degree include a study plan consisting of a minimum of 30 semester units of approved upper division and graduate (500-level) coursework taken after the baccalaureate and completed with a 3.0 (B) minimum grade-point average. The coursework should normally be completed within five years (see "Time Limit for Completion"). For specific requirements of particular programs, please see the descriptions elsewhere in this catalog.

In the degree program:

1. Not less than 21 semester units shall be completed in residence.
2. Not less than one-half of the units required for the degree shall be in graduate (500-level) courses.
3. Not more than six semester units shall be allowed for a thesis if a thesis is required.

Some type of final evaluation, near the end of the student's work toward the master's degree, is required. It may be a thesis, a project, a comprehensive examination, or any combination of these.

Each student's program for a master's degree (including eligibility, classified standing, candidacy, and award of the degree) must be approved by the graduate program adviser, the graduate committee, and the dean of graduate studies.

GRADUATE REGULATIONS

The following are in addition to other policies and procedures applying to both undergraduates and graduates described elsewhere in this catalog and in the appropriate *Class Schedule.* Requirements of individual programs are shown in the appropriate sections of this catalog. Also, individual academic areas may have established particular rules governing programs offered.

Students are advised to consult the *Graduate Bulletin* for detailed instructions concerning steps in the master's degree program. It is the student's responsibility to initiate the requests for classified standing, advancement to candidacy, and a graduation check at the appropriate times. The deadline for requesting the graduation check appears in the official calendar for each semester.

Since all policies and procedures are subject to change, by appropriate authority, students should consult class shedules and other official announcements for possible revision of policies and procedures stated herein.

Post-Baccalaureate and Graduate Application Procedures

All applicants for any type of post-baccalaureate or graduate standing (e.g., master's degree applicants, those seeking credentials, and those interested in taking courses for personal or professional growth,) must file a complete application within the appropriate filing period. A complete application for post-baccalaureate or graduate standing includes all of the forms and fees described in the application booklet, including the supplementary graduate admissions application. Applicants who completed undergraduate degree requirements and graduated the preceding term are also required to complete and submit an application and the $20 nonrefundable application fee. Since applicants for post-baccalaureate and graduate programs may be limited to the choice of a single campus on

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each application, redirection to alternative campuses or later changes of campus choice will be minimal. In the event that an applicant wishes to be assured of initial consideration by more than one campus, it is necessary to submit a separate application (including fee) to each. Applications may be obtained from the graduate studies office of any California State University or College campus in addition to the sources noted for undergraduate applicants.

Applicants should consult the section of this catalog, "Admission to the University," for information concerning "Admission Categories and Quotas; Systemwide Impacted Programs," "Application Filing Periods," "Space Reservations" and "Hardship Petitions."

Admission of Post-Baccalaureate and Graduate Students

Post-Baccalaureate Standing: Unclassified

For admission to unclassified post-baccalaureate standing, an applicant must: (a) hold an acceptable baccalaureate degree from an institution accredited by a regional accrediting association (e.g., Western Association of Schools and Colleges for California) or have completed equivalent academic preparation as determined by an appropriate campus authority; (b) have attained a grade-point average of at least 2.5 (on a scale in which A equals 4) in the last 60 semester (90 quarter) units attempted; and, (c) have been in good standing at the last college attended.

An applicant who does not qualify for admission under the provisions of (a) or (b), or both, as in the preceding, may be admitted by special action if on the basis of acceptable evidence it is determined by appropriate campus authority that the applicant possesses sufficient academic, professional and other potential pertinent to the educational objectives to merit such action.

Admission to a California State University or College with post-baccalaureate unclassified standing does not constitute admission to graduate degree curricula and does not assure access to particular classes.

Graduate Standing: Conditionally Classified

An applicant who is eligible for admission to a California State University or College under unclassified post-baccalaureate standards as above, but who has deficiencies in prerequisite preparation which in the opinion of the appropriate campus authority can be met by specified additional preparation, including qualifying examinations, may be admitted to an authorized graduate degree curriculum with conditionally classified graduate standing. There may be additional requirements in particular programs for admission with conditionally classified standing. Consult the program descriptions.

Graduate Standing: Classified

A student who is eligible for admission to a California State University or College in unclassified or conditionally classified standing may be admitted to an authorized graduate degree curriculum of the campus as classified if the graduate student satisfactorily meets the professional, personal, scholastic or other standards for admission to the graduate degree curriculum, including qualifying examinations, as the appropriate campus authority may prescribe. Consult the program descriptions. Only those applicants who show promise of success and fitness will be admitted to graduate degree curricula, and only those who continue to demonstrate a satisfactory level of scholastic competence and fitness shall be eligible to proceed in such curricula.

Advancement to Candidacy

A student who has been classified (as above) may, upon application and with subsequent approvals, be advanced to candidacy, following the satisfactory completion of a minimum of 12 units of coursework on the approved study plan. A minimum grade-point average of 3.0 (B) in all coursework on the study plan is required; other scholastic, professional and personal standards, the passing of examinations, and other qualifications, may be prescribed. Only those who continue to demonstrate a satisfactory level of scholastic competence and fitness, as determined by the appropriate authorities, shall be eligible to continue in the curriculum.

Admission From Nonaccredited Schools

An applicant who is a graduate of a nonaccredited school must apply for admission as an undergraduate to complete requirements for a bachelor's degree from this institution. However, once admitted, a student in this category who gives evidence of unusual promise and superior background may petition the academic area concerned for conditionally classified graduate standing. If the petition is granted, the student may then proceed in the graduate program.

Residence Requirement

A student is considered to be in residence when registered during regular semesters at Cal State Fullerton. Of the minimum of 30 semester units of approved coursework required for the master's degree, not less than 21 shall be completed in residence at this institution. Approved units earned in summer sessions may be substituted for regular semester unit requirements on a unit for unit basis. Extension credit and credit by examination may not be used to fulfill the minimum residence requirement and are not normally acceptable as part of the six units of approved transfer work permitted. See also "Continuous Enrollment," below.

For a modification of this requirement, see the concentration in elementary curriculum and instruction under the Master of Science in Education. In addition, all courses taken in the Master of Public Administration external degree program, conducted at the Santa Ana Civic Center, are considered residence courses for those admitted to that program.

Election of Curriculum Requirements

A student remaining in continuous attendance in regular semesters and continuing in the same curriculum may elect to meet the degree requirements in effect either when entering the curriculum or at the time of completion of degree requirements, except that substitutions for discontinued courses may be authorized or required by the proper authorities.

Continuous Enrollment

A graduate student with a graduate degree objective should maintain continuous enrollment during regular semesters (summer sessions and extension excluded) until award of the degree. This policy is designed to eliminate the need for readmission to the university, provide opportunity for continuous use of facilities, including the Library, and assure the development of an integrated program, adequately supervised, and effectively terminated within the time limitations allowed by regulations.

A graduate student who fails to register each semester has discontinued enrollment in this institution and in the graduate degree program. If the student wishes to resume studies, it will be necessary to reapply for admission to Cal State Fullerton and to the degree program. Students who may have completed all coursework, but who may not have satisfactorily completed a comprehensive examination or other requirement, are expected to maintain continuous enrollment. Students admitted to the external degree program in public administration are not subject to this requirement.

If a graduate student pursuing an advanced degree finds it impossible to attend during a certain semester, and is not eligible for a leave of absence, as detailed elsewhere in this catalog, permission may be requested from the academic area sponsoring the graduate degree sought to register in Graduate Studies 700, a credit/no credit course with no units of credit, which does not require class attendance. Registration in Graduate Studies 700 will normally be restricted to graduate students who have been classified or who are in a prescribed prerequisite program for a specific graduate degree (conditionally classified). For eligible students, registration in each semester when no other coursework is taken will be necessary until award of the degree.

For a student whose only objective is a credential, a similar course, Credential Studies 701, is available. Consult the School of Human Development and Community Service for further details.

Students who encounter difficulties in maintaining continuous enrollment may discuss the situation with the dean of graduate studies.

Applicability of Courses Taken During Summer Sessions

Cal State Fullerton normally conducts a 12-week summer session. Appropriate courses taken during the summer session may be applied to a graduate degree program, providing the courses are approved *in advance* by the appropriate authorities. Since the funding of graduate work during the summer months does not include the necessary advisement and supervision, appropriate advisers and committees may not be available.

A normal full-time program of study in the summer session is 1⅓ units of coursework per week of instruction.

It should be noted that enrollment in a summer session does not constitute admission to the university (matriculation). Any student (other than those in the external degree program) desiring a master's degree must be admitted to a regular semester (fall or spring) and is expected to be enrolled continuously until award of the degree (see "Continuous Enrollment").

230 8 6 510

Grade-Point Average Standards

A minimum grade-point average of 2.5 in the last 60 semester units attempted is required for admission of all students for enrollment beyond the baccalaureate level, except that, under certain conditions, an applicant who does not meet this requirement may be admitted by special action. See "Post-Baccalaureate Standing: Unclassified," under "Admission of Post-Baccalaureate and Graduate Students."

Minimal grade-point average requirements for admission to graduate degree programs with conditionally classified graduate standing are shown in the descriptions of graduate programs elsewhere in this catalog. For further information, consult the appropriate graduate adviser, the Office of Admissions or the Graduate Office.

The grade-point average required for prerequisites prior to the granting of classified graduate standing varies, according to the particular program. Consult descriptions of programs in this catalog and in the *Graduate Bulletin.* However, a student is expected to have earned a 3.0 grade-point average in all post-baccalaureate coursework taken at this university plus such transfer courses as are applied to the study plan. No student may be granted classified standing with less than a "B" average for courses on the study plan.

Students in conditionally classified and classified graduate standing are subject to academic probation and, subsequently, disqualification if they do not maintain a cumulative grade-point average of at least 3.0 in *all* units attempted subsequent to admission to the program. Progress points are not computed for students in graduate standing.

Advancement to candidacy requires the completion of a minimum of 12 units on the study plan with a minimum grade-point average of 3.0, and whatever additional requirements there may be in a particular program.

The 30 semester units of approved study plan coursework required for the degree must be completed with a 3.0 (B) minimum grade-point average. If a student approaches the completion of the degree requirements with less than a 3.0 average, a request may be made to change the study plan to add no more than six units of coursework in order to achieve at least a 3.0 average (see "Changes in Study Plan," as follows). If a student's average at any time falls below such a level that it cannot be raised to a 3.0 within the prescribed limits of coursework, the student has in effect withdrawn from the master's program.

Tests

An applicant for admission with graduate standing in conditionally classified or classified graduate standing and declaring the objective of a Master of Business Administration is required to submit the test scores from the Graduate Management Admissions Test (Educational Testing Service).

Similarly, applicants for admission to the Master of Arts in Biology must submit test scores from the GRE Aptitude test and the Advanced test in biology (or the Medical College Admission Test, or the Dental Admission Test), and applicants for the Master of Arts in Anthropology and in Communications must submit test scores from the GRE Aptitude test.

Other applicants may be admitted in contitionally classified graduate standing without test scores. However, test scores are required for admission to classified standing in many of the master's degree programs. See program descriptions in this catalog for the appropriate requirements and types of tests required.

The Graduate Record Examinations are nationally administered and are given only a few times a year on specified dates. A current list of these dates is available at the Office of Counseling and Testing, and the Graduate Office. The student must make written application for the tests on a form available at the above offices which must be submitted to the particular testing service office by the applicable deadline. Since test results are measured against those of students who normally take the tests in their senior year and since they are required before the student can become a classified student, the taking of the tests should not be deferred.

Limitation on Preclassification Coursework

No more than nine units of postgraduate work taken at Cal State Fullerton prior to classified standing may be applied to a student's master's degree study plan. Any acceptable transfer work is excluded from the nine units permitted. Students who receive postgraduate credit for courses taken during their final semester as a senior may accumulate as many as 12 units.

234 8 6 530

Inapplicable Courses and Grades

Courses numbered 100 to 299 and in the 700 series may not be included in a master's degree study plan. Courses numbered 300 to 399 do not give graduate credit unless included on an approved graduate study plan.

Courses taken to meet baccalaureate degree requirements, or postgraduate coursework taken to satisfy quantitative or qualitative deficiencies, may not be used on a master's degree study plan. Credit by examination and correspondence credit are not acceptable.

Workshop, extension, and institute coursework offered either at this institution or by other colleges or universities is not normally acceptable as part of a master's degree study plan. A student who desires to utilize such coursework should obtain approval from the graduate adviser and committee, and from the dean of graduate studies. When such coursework has been taken elsewhere, the student should provide evidence that the college or university concerned would consider such coursework acceptable toward a comparable graduate degree. Any such courses offered by other institutions, but which are not acceptable for their own graduate degrees, may not be accepted by this university for a graduate degree.

Graduate students must use the traditional letter grading. Option 1, for courses on the master's degree study plan (see the section of this catalog on "Grading Policies"). Any course taken at this university with a grade of CR, P, S or similar cannot be accepted on a master's degree study plan.

A course taken at another college or university with a grade of CR, P, S or similar cannot be accepted on a master's degree study plan unless such a course with such a grade is acceptable at that college or university for a graduate degree.

See also the sections following on "Time Limit for Completion" and "Enrollment in 500-level Courses by Seniors."

Declassification

Graduate students in classified standing may be declassified upon the recommendation of the appropriate academic unit, with a change to post-baccalaureate standing (unclassified), when one or more of the following conditions exist:

1. The student's request for declassification has been recommended for approval by the graduate committee.
2. The student fails to maintain the grade-point average required in the master's degree program.
3. The student has failed to demonstrate a satisfactory level of scholastic competence and fitness.
4. The student fails to complete the degree within the time limit.

Recommendations for declassification are made by the appropriate graduate program adviser to the dean of graduate studies.

Time Limit for Completion

All coursework on the master's degree study plan should normally be completed within five years. The university, at its option, may further extend the time if warranted by individual circumstances and if the outdated work is validated by comprehensive examination, in the relevant additional course or subject field work or such other demonstration of competence as may be prescribed. Requests to take such comprehensive examinations, or accomplish updating by alternative means, should be made to appropriate graduate studies committees through the graduate program adviser. Students may obtain a form for this purpose, "Petition for Validating Outdated Coursework," in the university graduate office.

When an examination is administered or the alternative completed, a report of successful completion will be made to the dean of graduate studies. The grade received on the original course will be used on the master's degree study plan, rather than the CR grade used for challenge examinations. If an additional course is prescribed, the units and grades for both courses will be applied to the study plan.

The following shows the dates of expiration of courses according to the five-year limitation:

Courses taken in	*Will expire in*
1972	1977
1973	1978
1974	1979
1975	1980
1976	1981
1977	1982
1978	1983
1979	1984

Students who were enrolled in a master's degree program at this university (conditionally classified or classified) prior to the fall semester, 1975, and have not broken residence, may petition for extension of the time limit to seven years. Forms are available in the university Graduate Office.

Changes in Study Plan

The student must complete the courses shown on the approved study plan on file in the Graduate Office and in the particular academic unit with at least a 3.0 (B) grade-point average. If a student wishes to make a change in the study plan, a request may be made on the appropriate form (copies available in the Graduate Office, and graduate program offices) in the academic unit offering the master's degree prior to registration for the coursework to be substituted or added. The recommendation for a change must be signed by the adviser. No course for which a grade has been assigned may be removed from a study plan. See also "Grade-Point Average Standards" and "Time Limit for Completion."

Minimum Full-Time Course Unit Load

The minimum full-time unit load for a graduate student is defined as either 12 units of coursework a semester or nine units of which six are in 500-level courses. Students who are enrolled in thesis, project or similar activities, and who feel the unit count does not adequately reflect the intensity of academic activities, may request a review.

Maximum Course Unit Load

Twelve units is considered to be a maximum course load for graduate students, but, on the approval of an adviser, in exceptional cases, a student may take more.

Theses and Projects

According to the definition approved by the university, a thesis is a systematic study of a significant problem. The problem, its major assumptions, its significance, the methods and sources for gathering data, the analysis of data, and the conclusions and recommendations, should be clearly stated. A project is defined as either (1) the systematic development of a plan for, or the critical evaluation of a significant undertaking, or (2) a creative work such as a novel, a musical composition or a group of paintings. Quality of work accomplished is a major consideration in judging the acceptability of any thesis or project. The finished product must evidence originality, appropriate organization, clarity of purpose, critical analysis, and acuracy and completeness of documentation where needed. Mere description, cataloging, compilation or other superficial procedures are not adequate. Critical thinking and independent thinking should characterize every thesis and every project.

Of the minimum of 30 semester units of approved coursework required for the master's degree, no more than six are allowed for a thesis.

When a thesis is required the Library must be provided with the approved original copy, or a fully acceptable duplicated copy, in the approved binding, and a microfilm of it. An abstract, of not more than 150 words, must accompany the thesis, and will be published in the journal, *Master's Abstracts*. Arrangements for the binding, microfilming and publication of the abstract are made through the Titan Bookstore and include the execution of a publication agreement. The current fee (subject to change) for microfilming, publication of the abstract, and the archival copy is $35 (plus tax). The fee (subject to change) for binding is $10 (plus tax).

When a project is required, it will be filed with the academic unit offering the degree program. Some record of the project, or the project itself, is preserved in the academic unit and, when appropriate, in the Library. When the appropriate authority recommends, a project or its written record may be treated as a thesis.

Title to theses (and projects, when treated as theses, as above) passes to the university upon their acceptance by the evaluating faculty.

Providing the academic unit administering the program approves, a qualified person who is not a regular university faculty member may be permitted to serve as a visiting examiner and join in the approval of the written record of a thesis or project.

The thesis and, where appropriate, the project, must conform in matters of style and format to the rules in the section on "Theses and Projects" in the *Graduate Bulletin.* Since adherence to these rules must be checked and approved, and valuable assistance can be given with problems associated with illustrations, etc., students are advised to consult the Library adviser (in the reference area) well in advance of the final typing of the thesis. In addition, schools, divisions, departments, and programs have adopted particular style manuals which are to be followed in matters of documentation and bibliography (consult the appropriate graduate program adviser). Some graduate programs use style manuals or guides designed for journal articles. Although these are helpful for abbreviations, tables, figures and footnoting, as well as other purposes, students should be aware of the difference between a thesis and an article and make appropriate adaptations, approved by the graduate program adviser. Theses from the Library shelves should not be used as examples of correct format.

It is the student's responsibility to become acquainted with the appropriate rules and regulations and to make all necessary arrangements for the typing of the thesis, including instruction of the typist, if other than the student. An experienced typist is strongly advised, although the university does not endorse or recommend typists. Adequate time should be allowed for reading and criticism by the adviser, the committee members, and the library clerk, for revisions, as needed, and for completion of the final edition of the thesis, including approvals. No changes or additions will be allowed after the final signatures have been obtained. If there is disagreement within the committee concerning the acceptability of the thesis, the approving signatures of a majority of the committee will be sufficient.

The deadline for submission of the completed thesis to the adviser and committee is six weeks in advance of the last day of classes of the semester in which the student hopes to be awarded the degree, unless other arrangements are made with the school or department. The deadline for submission to the Library adviser is the last day of classes. **The deadline for depositing the approved copy of the thesis in the Titan Bookstore and making the arrangements for binding, microfilming and publication of the abstract, is the last day of final examinations for the semester in which the degree is to be awarded.** If a student's program requires a thesis, or if the project has been determined to be regarded as a thesis, the master's degree cannot be awarded unless the notification that the student has completed this final step is received by the dean of graduate studies.

Graduation Requirements Check

It is the student's responsibility to file an application for a graduation check for award of the master's degree at the beginning of the final semester. This application initiates the process of review of degree requirements and essential approval by the faculty. The last date to file the application is listed in the academic calendar of the *Class Schedule* for each regular semester. Candidates for August graduation must file their requests during registration for the spring semester.

A graduation and diploma fee must be paid when the request for graduation check is filed. Application forms are available at the Admissions and Records information desk (Lobby of Langsdorf Hall) and in the Registration Center.

Graduate Assistantships, Fellowships and Financial Aids

A limited number of appointments as graduate assistants are available to outstanding graduate students who are in graduate standing in graduate degree programs. These may pay up to $1,865 per semester. If interested, consult the dean or chair of the appropriate academic area. Teaching fellowships are not currently available.

Each year the State of California may award a certain number of graduate fellowships (payment of fees only) to qualified students who are residents of California. Applications may be obtained from the Financial Aid Office or the Graduate Office.

The Graduate Office maintains a file of scholarship and fellowship opportunities offered by other educational institutions and foundations.

For information concerning other financial aids and part-time placement services, see the appropriate sections of this catalog.

International Study

Cal State Fullerton participates in The California State University and Colleges' program of study abroad. Under this program, limited studies taken at designated foreign universities, when arranged in advance, may be applied toward the requirements of a graduate degree awarded by Cal State Fullerton. It is important that plans be completed several months before starting such a program. For details see elsewhere in this catalog and consult the director of international education and exchange.

Second Master's Degree

A graduate student desiring to work for a second master's degree at Cal State Fullerton must request permission to apply for admission to a second master's degree program. A letter should be sent to the dean of graduate studies requesting approval, giving supportive reasons, and indicating the university awarding the first master's degree, the major and year of award. If the request is granted, the student must satisfy all prerequisites and all requirements of the new degree program. Units used for the first degree may not be applied to the second. Approval of classified standing for the second degree will be given only after the first degree has been awarded. Please consult the Graduate Office for further details.

Postgraduate Credit

Petitions for postgraduate credit for coursework taken in excess of baccalaureate degree requirements at Cal State Fullerton are obtained and filed in the Office of Admissions and Records. If approved, the appropriate notations will be entered upon the permanent record of the student.

If a graduate student has not, while an undergraduate, received permission to consider coursework which was not required for the baccalaureate as postgraduate, a petition may be filed for such credit to be granted retroactively.

If, following admission in graduate standing with a master's degree objective, approval is given by the appropriate *graduate program adviser,* the committee and the dean of graduate studies, such coursework may be included as a part of the student's study plan, within existing regulations concerning applicable coursework and requirements for the degree. See also "Inapplicable Courses and Grades" and the statement below concerning 500-level courses.

Enrollment in 500-Level Courses by Seniors

Under certain circumstances, a senior may take a 500-level course. If the student *is not* within nine units of graduation, postgraduate credit is not given for such courses. The senior must have a minimum grade-point average of 3.25 overall and of 3.5 in the field or fields of the intended graduate program, and the specific approval of the dean or chair of the academic area in which the course is offered and the chair or dean of the student's major area.

If the senior *is* within nine units of completion of graduation requirements and has been given approval, as above, the student may petition for postgraduate credit for these units as provided under "Postgraduate Credit."

245 8 6 585

academic advisement



ACADEMIC ADVISEMENT

The Office of Academic Advisement provides assistance to students in the choice of an undergraduate major and in the selection of elective and general eduction courses. It is the administrative center for undeclared majors, i.e., those students who have not yet decided upon a major.

The Office of Academic Advisement is located in Room 112 of the Humanities Social Sciences Building. No appointment is necessary to engage the assistance of an adviser about various aspects of the academic life at the university. For more specific information about the office, the student should consult the *Class Schedule*.

Undeclared Majors

Lower division students who are uncertain about their primary educational or vocational goals may, and probably should, enroll as undeclared majors. Then, and during their freshman and sophomore years, such students should explore the possibilities open to them that will meet their interests and potentialities.

Their "home department" is the Office of Academic Advisement. Consequently all individual problems encountered by the undeclared major student and requests which normally require the assistance of a chair, are handled by the director of academic advisement.

Especially for choosing general education courses and choosing an undergraduate major, undeclared major students should seek the advice of the director or of an adviser in the Office of Academic Advisement.

Choosing an Undergraduate Major

Every student is expected to choose a major or field of concentration by the beginning of the junior year. The majors currently offered at this university are described in the next sections of this catalog. Most major requirements allow students the freedom to take a number of courses in fields other than in their majors or closely related fields.

To help students in their searching and selecting, the university has available a number of useful resources: the Office of Academic Advisement; advisement session and orientation programs that are given every year; a variety of counseling and testing services provided by the Counseling and Testing Centers; and the different department and school offices for information and advice on particular fields, departmental brochures and manuals describing their programs of study and later work opportunities. There also is a collection of college and university catalogs available in the Library. Additionally, there is a growing number of student organizations organized in terms of disciplinary and professional interests. The Career Planning and Placement Center also has much useful information on vocations and specific work opportunities.

Most students have general ideas about some subjects in which they might like to major, and almost all students are aware of the fields in which they do not wish to major. The task of selecting a major (and often a minor or other complementary specialization) then becomes one of crystallizing these earlier ideas on the basis of experiences in specific courses, discussions with other students and faculty, etc. Before commitment to a specific major, students should be sure that they have not rejected a field of study because of some wrong preconceptions or inaccurate information. Students also should not overlook interests and potentialities that they previously may not have discovered. The option of taking a limited number of courses on a Credit/No Credit basis often will be helpful in these pursuits. "Minicourses" also provide an excellent opportunity to explore the multiple areas of knowledge.

Students, however, must be very careful to plan freshman or sophomore programs which will permit their entering or taking advanced courses in fields they think they may want to be their majors. Such students should check such major requirements as mathematics, chemistry and foreign language which must be taken before the junior year or perhaps even begun during the freshman year. Students anticipating graduate or professional study in a certain field should exercise special care in planning their undergraduate programs, and they should seek faculty counseling in the fields concerned. Such choices do not have to be made during the first two years, and may or may not be made during the second two. However, careful and advance examination of the possibilities of graduate or professional study often will be helpful to students who have fairly clear ideas of the educational and vocational objectives they would like to seek.

Students also should be careful about concentrating so heavily in a particular field that they cannot change majors to a different field should they wish to do so. Some students come to the campus with no clear idea of the field in which they would like to major. Such students, and others, whose goals and objectives have not yet firmly crystallized, will have opportunities to take courses in various fields and make up their minds during their lower division work. They should, however, take full advantage of the opportunities that exist on and outside the campus to learn more about available fields of study and occupational fields.

Planning a Major Program

When students have selected a major field, they should study carefully all the requirements which are specified in this catalog under their chosen degree program. Then they should make a tentative semester by semester plan for completing the requirements, with careful regard for courses which are prerequisite to others. They should discuss this plan with their major advisers who will be able to help them with any problems.

In addition to courses in the major department, related courses in other fields and supporting courses in basic skills also may be required. These, too, should be included in the tentative semester by semester plan. These auxiliary requirements are described in the degree program for each major.

Some departments require placement tests prior to admission to classes. The time and place for such tests is given in the class schedule, often before registration. Students should purchase a copy of the *Class Schedule* at the Titan Bookstore well before registration for classes begins.

Choosing General Education Courses and Electives

In keeping with the liberal arts tradition, the university requires its graduates to have sampled a variety of disciplines as part of their general education. The broad categories of general education courses are presented in the catalog section on "Graduation Requirements for the Bachelor's Degree."

The discussion of the philosophy and objectives of general education is presented on page 66.

To many students the selection of general education courses and electives poses many difficult choices. With well over 3,000 classes to choose from and over 50 fields of specialization that can be sampled, some demanding decisions must be made. Various aids or resources are available. Among these are: this catalog and the *Class Schedule* with their descriptions of regular and new and experimental courses; informal consultations with faculty members; and advisers in the Office of Academic Advisement. The selection of general education courses and electives is important. All students are strongly encouraged to consult with faculty members or the Office of Academic Advisement to better facilitate this important decision making process.

Change of Major, Degree or Credential Objective

A student who wishes to change his/her major, degree, or credential objective must obtain the required form in the Office of Admissions and Records or the Office of Academic Advisement. Such a change is not official until the form has been signed and filed in the Registrar's Office. A student should be aware that he/she will be responsible for the requirements for the new choice of major, degree, or credential that are in the catalog in effect at the time he/she files a change.

DEPARTMENTAL ACADEMIC ADVISEMENT

According to the established practice at the university, each department follows the advisement system which it finds the most appropriate for its majors.

Each undergraduate student is assigned or may request an adviser who will help the student plan an academic program. The adviser is a resource person who can provide valuable information and suggestions and who can assist the student to find the most desirable ways to meet the requirements for graduation and for his major or credential. Although the adviser is consulted, the final choice of courses and the responsibility for the program lies with the student himself.

Academic program advisers are able to offer better advice when consulted if students come prepared with lists of courses they already have taken and their own copies of transcripts from colleges previously attended (if students are new to Cal State Fullerton).

Those seeking a credential will also be assigned a professional adviser by the School of Education. Students who have not yet decided upon a major (undeclared majors) or who are not seeking a

degree will be advised in the Office of Academic Advisement.

Undergraduate advisement coordinators are appointed by each department (for the School of Business Administration and Economics see below) in order to facilitate communication between students and faculty. They coordinate advisement in each department and act as resource persons for the students and the faculty of the department in all matters of advisement. Their names, room and telephone numbers and office hours are listed in the Academic Advisement Resource materials.

The School of Business Administration and Economics provides advisement concerning educational goals, curriculum, major requirements, administrative procedures in the advisement center of the school.

Graduate students will be assigned a major adviser in their fields of specialization, except in education where all will have a professional adviser from the School of Education. Those students seeking a credential for teaching in secondary schools will be assigned both a professional and a major adviser.

PREPROFESSIONAL PROGRAMS

The academic programs of the university provide appropriate preparation for graduate work in a variety of fields. Students who have made tentative decisions about institutions in which they may wish to pursue graduate work should consult the catalogs of those graduate schools as they plan their undergraduate programs. Students planning to undertake graduate work should supplement their undergraduate programs by anticipating language requirements at major graduate schools and by intensive work in areas of special relevance to their intended graduate work. Professional schools in many universities either require or recommend that applicants complete four-year programs for admission. Although the professional schools do not always require a bachelor's degree, they generally encourage basic preparation and a broad general education leading to that degree before beginning specialization.

The university offers a number of professional programs through the master's degree. These include programs in the fine arts, business administration, communications, education, engineering, health education and physical education and recreation, library science, public administration, and speech pathology-audiology. Students interested in preparing for professional careers in these areas, either here or in other educational institutions, are encouraged to seek assistance and guidance from our faculty members in these fields.

Prelegal Preparation

Students planning to enter law school may elect any one of several majors. Although there is no uniform prelegal course of study or specific university major required, it is recommended that prospective law students prepare themselves in such fields as English, American history, economics, political science (particularly the history and development of English and American political institutions) and such undergraduate courses as judicial process, administrative law, constitutional law and international law, philosophy (particularly ethics and logic), business administration, anthropology, psychology and sociology.

The major chosen and many of the courses selected should demand a high level of performance in reading difficult material, understanding abstract and complex concepts, and speaking and writing clearly and persuasively. Prelegal students are advised to take the minimum program to meet the requirements of their chosen major and courses beyond the introductory survey level in other selected fields. A distribution of course sequences among the social sciences, the natural sciences and the humanities is desirable. Students with interest in becoming lawyers should contact the Prelaw Society. Some faculty members in the School of Business Administration and Economics and Departments of American Studies, History and Politicial Science, also can provide advice and assistance.

Pretheological

Students who might be interested in pursuing careers in counseling, social work, the teaching of religion, and the ministry and associated fields should take some courses in religion, psychology, anthropology, sociology, philosophy, education, communications, history, English, speech communication and a foreign language. Students desiring assistance and counseling regarding advanced work or professional careers may seek help from the faculty in the Department of Religious Studies.

Social Welfare

Students who plan to seek employment in social work or social welfare should prepare themselves in the fields of human services, psychology (particularly child and adolescent psychology), sociology, anthropology, political science, economics and research methods in social science.

Students who intend to enter a professional school following undergraduate training should learn about the specific prerequisites for admission to the graduate school of their choice. Ordinarily a major in one of the social sciences, and some additional work in at least several other social sciences, is recommended. Students with interests in pursuing careers in the fields of social welfare should contact the Department of Sociology for advice and assistance.

HEALTH PROFESSIONS

Health Professions Committee

Student counseling with respect to preprofessional programs in medicine, dentistry and other health sciences as well as professional school admission problems are the concern of this committee. (See membership listing, page 435). All students wishing to prepare for careers in the Health Professions should register in the Office of the Health Professions Committee.

Predental Preparation

Dental schools are seeking applicants with broad preparation. Although admission is possible following 60 or 90 units of college work including basic science requirements, most successful applicants in California complete their baccalaureate degree prior to admission to dental school. Dental schools vary with respect to their requirements, thus the student is advised to consult the admission requirements of the individual schools to which he anticipates making application. The basic program listed below under premedical preparation, although more extensive than required for many individual dental schools, would meet the requirements for all of the California dental schools and the majority of the others in the United States. The prospective dental student should take the Dental College Admission Test (DAT) one year prior to the date at which he plans to enter dental school. Application blanks for the test may be obtained from the Office of the Health Professions Committee.

Premedical Preparation

Medical schools are currently seeking applicants with as broad and liberal an educational experience as possible. They recommend that applicants pursue collegiate major programs which are of vital interest to the student. However, all medical schools require a basic minimal training in the natural sciences and English. The Health Professions Committee, upon review of the medical school admission requirements, recommends the following coursework which satisfies this minimum training:

one year of English

five semesters of biology: lower division biology courses in general zoology and general botany, upper division biology courses in microbiology, embryology and genetics

one year of general chemistry

one year of organic chemistry with laboratory

one year general biochemistry lectures

one year of college physics with laboratory

one year of calculus

Most medical school applicants complete a baccalaureate degree program prior to beginning their medical training. However, applications to medical school are processed normally at the termination of the sixth semester (junior year). The Medical College Admission Test (MCAT), required of all medical school applicants, is taken normally during the spring of the sixth semester (junior year). The prospective medical school applicant should therefore normally plan to complete the above natural science minimal requirements by the end of the junior year. Thus he should begin general chemistry in his freshman year in order to satisfy the prerequisite requirements for the advanced courses in chemistry.

Since medical school admissions are limited, the best prepared applicants are likely to have an advantage. Many medical schools recommend certain courses in the natural sciences in addition to those listed above in the minimal requirements.

The prospective applicant is advised to consult the catalogs of those medical schools to which he anticipates applying for additional recommended preparatory subjects. He is further advised to consult the chair or any member of the Health Professions Committee for assistance in planning his total collegiate program. Application forms for the MCAT can be obtained from the Office of the Health Professions Committee.

Preoptometry

The study and practice of optometry requires a high degree of responsibility, devotion, intellectual curiosity and social commitment. The individual's education prior to optometry school should demonstrate and strengthen these qualities.

Academic requirements for admission to colleges of optometry are based on standards provided by the California Optometry Law, the accrediting bodies and the judgment of the College Admissions Committee.

At the college level, completion of a minimum of 60 semester units or 90 quarter units is required for admission; however, the accumulation of more units of attainment of any undergraduate degree is suggested. The ratio of applicants to available places is disproportionate; therefore, a student without a degree must demonstrate exceptionally high scholastic achievement, intellectual capacity and motivation in order to gain admission.

The following courses must be completed prior to enrollment and are the minimum requirements for most colleges of optometry:

Analytical geometry or calculus (3 semester units or 4 quarter units)

General biology or zoology to include laboratory (8 semester units or 12 quarter units)

Microbiology or bacteriology to include laboratory (no substitutions are allowed) (3 semester units or 4 quarter units)

General physics to include laboratory (8 semester units or 12 quarter units)

General chemistry to include laboratory (8 semester units or 12 quarter units)

Psychology (Statistics will not meet this requirement) (6 semester units or 8 quarter units)

English—composition or literature (6 semester units or 8 quarter units).

Other Health Professions

Preprofessional preparation for osteopathy, pharmacy, pharmacology, podiatry and veterinary medicine should be arranged in consultation with the chair of the Health Professions Committee.

No specific bachelor's degree programs are available at Cal State Fullerton in professional areas such as dental technician, occupational therapy, physical therapy. Preparatory work for such programs is available. Students should register their specific interest preference in either the Office of the Health Professions Committee or the department offices in biological science or chemistry.

Medical Biology

A concentration in medical biology is available under the B.A. in Biological Science program. Students interested in pursuing this field of study should select appropriate elective courses in their study plan. A concentration in medical biology is also available under the M.A. in biology. For further details, consult the coordinator of medical biology in the Department of Biological Science or the chair of the Health Professions Committee.

Nursing

A B.S. in Nursing is offered for those who are currently licensed registered nurses. For information concerning the program consult the chair of the nursing program. (See nursing program listing in this catalog.)

36 8 7 100

university curricula



UNIVERSITY CURRICULA

DEGREE PROGRAMS

California State University, Fullerton offers the following baccalaureate degree programs which are described on the pages listed:

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B.A. American Studies	219
B.A. Anthropology	222
B.A. Art	96
B.A. Biological Science	353
B.A. Business Administration (including concentration in management information systems)	135
B.A. Chemistry	367
B.S. Chemistry	364
B.S. Child Development	164
B.A. Communications	233
B.A. Comparative Literature	242
B.S. Computer Science	374
B.A. Criminal Justice	247
B.A. Earth Science	380
B.A. Economics	144
B.S. Engineering	386
B.A. English	249
B.A. Ethnic Studies (with concentration in Afro-ethnic Studies and Chicano Studies)	214, 229
B.A. French	256
B.A. Geography	270
B.A. German	256
B.A. History	275
B.S. Human Services	169
B.A. Latin American Studies	289
B.A. Liberal Studies	291
B.A. Linguistics	296
B.A. Mathematics (including option in probability and statistics)	406
B.A. Music	108
B.M. Music	109
B.S. Nursing	171
B.A. Philosophy	303
B.S. Physical Education	187
B.A. Physics	414
B.A. Political Science (including concentration in public administration)	308, 309
B.A. Psychology	317
B.A. Religious Studies	326
B.A. Russian and East European Area Studies	330
B.A. Sociology	333
B.A. Spanish	256
B.A. Special Major	91
B.A. Speech Communication	340
B.A. Theatre Arts	121

The following master's degree programs are offered:

	Page
M.A. American Studies	219
M.A. Anthropology	223
M.A. Art	99
M.A. Biology	356
M.B.A. Business Administration (including concentration in international business)	142
M.A. Chemistry	368
M.A. Communications	236
M.A. Comparative Literature	243
M.S. Computer Science	376
M.S. Counseling	166
M.A. Economics	144
M.S. Education (with emphases in bilingual/bicultural, elementary education, reading, school administration and special education)	174, 180, 183, 203
M.S. Engineering	389
M.A. English	251
M.S. Environmental Studies	404
M.A. French	258
M.A. Geography	271
M.A. German	258
M.A. History	277
M.S. Library Science*	292
M.A. Linguistics	297
M.A. Mathematics	408
M.A. Music	112
M.M. Music	111
M.S. Physical Education	190
M.A. Political Science	309
M.A. Psychology	319
M.S. Psychology (concentration in clinical community)	320
M.P.A. Public Administration	310
M.A. Social Sciences	331
M.A. Sociology	334
M.A. Spanish (including emphasis bilingual studies)	258
M.A. Special Major	92
M.A. Speech Communication	342
M.A. Theatre Arts	123
M.F.A. Theatre Arts (technical theatre and design)	124

The university is accredited by the National Council for Accreditation of Teacher Education for programs leading to credentials and master's degrees.

* No new students are being accepted for the degree of M.S. in Library Science. No classes in library science will be offered after June, 1979.

SUBJECT FINDER

The listing of degree programs does not include all of the fields or subject matter areas in which some courses currently are being offered at Cal State Fullerton. Additionally, different colleges and universities differ in the names they assign to degrees, curricular programs, and the academic units offering courses. The following "subject finder" lists some of the most commonly used terms for fields with information on where courses or programs on these subjects can be located at Fullerton and in this catalog.

Subject	*Page*
Accounting	146
African Studies (See Afro-Ethnic Studies, Anthropology, Geography, History, Political Science)	
Afro-Ethnic Studies	214
American Indian Experience	218
American Studies	219
Anthropology	222
Arabic	260
Art	96
Art Education	106
Art History	97
Asian Studies (See Anthropology, Comparative Literature, Geography, History, Political Science)	
Astronomy	352
Athletics	187
Bilingual/Bicultural	91
Biological Science	352
Business Administration	148
Chemistry	364
Chicano Studies	229
Child Development	164
Chinese	260
Classics (See Comparative Literature, History and Latin)	
Communications	233
Comparative Literature	242
Computer Science	374
Counseling	165
Criminal Justice	246
Dance (See Theatre)	
Drama (See Theatre)	
Drama Education (See Theatre Education)	
Earth Science	380
Economics	148
Engineering	386
English	249
English Education	256
Environmental Education	404
Environmental Studies	404
Ethnic Studies (See Afro-Ethnic Studies and Chicano Studies)	
Finance	151
Folklore (See Anthropology and Comparative Literature)	
Foreign Languages and Literatures	256
Foreign Languages Education	259
French	260
Geography	270
Geology (See Earth Science)	
German	262
Greek	264
Health Education	191
Hebrew	264
History	275

	Page
Human Services	169
International Relations (See Political Science, Economics, History)	
Italian	265
Japanese	265
Journalism (See Communications)	
Journalism Education	242
Latin	266
Latin American Studies	289
Law (See Political Science, Management)	
Library Science	292
Liberal Studies	290
Linguistics	296
Marine Sciences	406
Management	154
Marketing	157
Mathematics	406
Mathematics Education	412
Medical Biology	413
Meteorology	303, 413
Mexican-American Studies (See Chicano Studies)	
Music	106
Music Education	120
Mythology (See Anthropology and Comparative Literature)	
Native American Studies (See American Indian Studies)	
Nature Interpretation	420
Nursing	171
Oceanography	413
Philosophy	303
Photography (See Art and Communications)	
Physical Education	191
Physical Science	414
Physics	414
Political Science	307
Portuguese	266
Psychology	317
Psychometry	165
Public Administration (See Political Science)	
Public Relations (See Communications)	
Quantitative Methods	159
Radio (See Theatre and Communications)	
Reading	174
Recreation	196
Religious Studies	326
Russian	266
Russian and East European Area Studies	330
Sanskrit (See Linguistics)	
School Administration	180
School Psychology	165
Science Education	420
Social Sciences	331
Social Work (See Social Welfare)	
Sociology	333
Spanish	267
Special Education	183
Special Major	91
Speech (See Speech Communication)	
Speech Communication	340
Speech Communication Education	348
Sports (See Physical Education)	

Statistics (See Mathematics and Quantitative Methods)
Student-to-Student Tutorials 88
Swahili 270
Teacher Education 196
Technological Studies 92
Television (See Theatre and Communications)
Theatre 121
Theatre Education 132

COURSE DESCRIPTIONS

Course descriptions briefly describe the content or subject matter to be covered and provide additional information on units of credit, the level of instruction (general course numbering code), prerequisites and the type of course (lecture, laboratory, activity, seminar and individually supervised work). Information on specific offerings of courses (times, rooms, instructors) will be found in the class schedule which is printed in advance of the fall and spring semesters. Information on additional (new, special or experimental) courses for each semester also can be found in these class schedules.

Some of the courses listed in the catalog are not taught every year. Many are taught once only every year. Others are taught every semester, and often in many sections. Advance information regarding the plans for offering particular courses may be obtained from the offices of the departments teaching them.

The forms and methods of teaching vary widely in specific classes, depending on the subject matter and purposes and the particular instructor and students. The more traditional methods of lecturing, discussion, laboratory work, and individually supervised research or projects increasingly are being supplemented by such learning resources as group and individual exercises, television, and films and records, videotaping, and the use of the computer. Modern specialized facilities and equipment are used in many courses in different fields. These include: laboratories for teaching the sciences; studios for teaching the fine arts; a small museum and archaeology/physical anthropology laboratory; a variety of facilities for teaching communications; a language laboratory for teaching foreign languages and linguistics courses; a speech and hearing clinic; the reading center; the Learning Assistance/Research Center; and the Tucker Wildlife Sanctuary.

Cal State encourages experimentation and innovation in teaching and welcomes a diversity of approaches. Increasingly, and with growing help from students, efforts are being made on the campus to examine and evaluate and improve the learning experiences in some classrooms in more scholarly ways. Students also are being provided more opportunities to learn through teaching experiences in activities such as tutoring.

SCHEDULES

A new *Class Schedule* is published in advance of the fall and spring semesters. This general, university schedule contains not only detailed information on times, places, and instructors for specific courses, but also materials on registration, new courses that are not in the catalog, the times for final examinations, and many other useful items for course and program planning. The *Class Schedule* may be purchased at the Titan Bookstore. Special schedules, which may be obtained from the Office of Continuing Education, are provided for the summer sessions and the extension curriculum.

GENERAL COURSE NUMBERING CODE

100–299 Lower division courses of freshman and sophomore level, but open also to upper division students.

300–399 Upper division courses of junior and senior level, which do *not* give graduate credit unless included on an approved graduate study plan (such as a credential or graduate degree program) for a specific graduate student.

400–499 Upper division courses of junior and senior level which give graduate credit when taken by a graduate student. (Note limitations in specific graduate programs.)

500–599 Graduate courses organized primarily for graduating students.*

700–701 Course numbers which provide opportunity for graduate and post-baccalaureate students

* Note exceptions on page 59.

(including those seeking the credential) to maintain continuous enrollment during a particular semester, and who are not enrolled in regular courses. These numbers do not represent courses and do not therefore grant credit. (See Continuous Enrollment for Graduate Students, page 71.)

DEPARTMENTAL COURSE NUMBERING CODE

Because of the differences in the organization and content of the various disciplines and professions, there is no uniform, reasonable way of numbering courses that would be equally useful for all fields of knowledge. Some of the departments explain the logic of their own course numbering system in this catalog.

In general it may be assumed that increases in class (freshman, sophomore, junior, senior, or graduate) and certainly division level (lower, upper, graduate) correlate with more difficult and challenging academic work. Sometimes, however, disciplines organize their course numbering partly in terms of criteria other than degree of difficulty: e.g., anthropology numbers its area courses in the 300's and its theoretical or institutional courses in the 400's. It should be noted, too, that some students find introductory courses to be more demanding than advanced, specialized courses: in such courses, a more comprehensive approach and the first exposure to new ways of thinking may be harder for some individuals than covering a smaller, more familiar area, in much greater detail.

SPECIAL COURSE NUMBERS

For uniformity, certain types of courses have been listed by all departments and schools with the same numbers: 499 and 599 are used for undergraduate and graduate "independent study"; 196 or 496 for "student-to-student tutorials"; 597 for a graduate "project"; and 598 for a graduate "thesis." The course numbers for senior seminars are not so uniform but they tend to be numbered 485, 490, 491 or 495.

EXPLANATION OF COURSE NOTATIONS

Certain notations are uniformly used in the course descriptions in this catalog.

1. The figure in parentheses following the course title indicates the number of semester units for the course. Courses offered for varying units are indicated as (1–3) or (3–6).
2. A course listing such as Anthropology 416 (3) (Same as Interdisciplinary Center 403) indicates that the course is "cross-listed" by both departments, i.e. a student can choose to take the course and count it as either an anthropology, *or* an Interdisciplinary Center course.
3. A notation such as (Formerly 433) following the course title and the number of units indicates the same course previously was numbered 433.

STUDENT-TO-STUDENT TUTORIALS

The university has begun a program of experimentation with and development of "student-to-student tutorials." One of the fastest and profoundest ways to learn is to teach. The "student-to-student tutorial" will provide a formal way to encourage students to learn through teaching. It will expand significantly the opportunities for students to have meaningful experiences as teachers. At the same time, it greatly will increase the amount of tutoring available and will extend tutoring to all of the kinds of students who need and want tutorial assistance.

Students electing to be tutors not only will increase their mastery of particular subject matters but also will have practice in developing their communication, cooperation and interpersonal relationship skills. Most important adult roles and jobs also involve a teaching dimension and the tutorial experience will provide opportunities to develop awareness of teaching problems and competence in teaching techniques.

Each department will decide whether or not it wishes to offer this course. Departments choosing to offer the student-to-student tutorial course will follow the rules listed in the following course description.

The course numbers will be 196 or 496, and one to three units of credit can be given for each course.

Prerequisites: A 3.0 or more grade-point average and/or consent of instructor and simultaneous enrollment in the course or previous enrollment in a similar course or its equivalent. The tutor and his tutee or tutees will work in mutually advantageous ways by allowing all involved to delve more carefully and thoroughly into the materials presented in this specific course. One to three students may be tutored by the tutor unless the instructor decides that special circumstances warrant increasing the usual maximum of three tutees. Three hours of work are expected for each unit of credit,

and this work may include, apart from contact hours with tutees, such other activities as: tutorial preparations; consulting with instructors; reporting, analysis and evaluation of the tutorial experiences; and participation in an all-university orientation and evaluation program for tutors. A maximum of three units can be taken each semester and nine units of any combination of 196 and 496 for an undergraduate program. This course must be taken as an elective and not counted toward general education, major or minor requirements. The course can be taken on a credit/no credit basis by the tutor. Requests for tutors must be initiated by tutees and can be initiated up until the official university date for dropping a class with a W. Tutors electing to respond to such requests will receive credits at the end of the semester and can register in the course until the official university date for dropping a class with a W. Both tutors and tutees must submit written reports, analyses and evaluations of their shared tutorial experience, and both must participate in an all-university orientation program as well as in any conference or critiques that the instructor of the course may require.

Further information can be obtained from the department in which the student is interested in "student-to-student tutorials."

PREREQUISITES

Students are expected to meet stated prerequisites for all courses. However, in exceptional cases, and at the discretion of the division in which the course is taught, students may be allowed to meet prerequisites by examination.

INDEPENDENT STUDY

Under the independent study program, the upper division student can pursue topics or problems of special interest beyond the scope of a regular course under the supervision of a faculty advisor. The work is of a research or creative nature, and normally culminates in a paper, project, comprehensive examination, or performance. Before registering, the student must get his topic approved by the instructor who will be supervising independent study. The catalog numbers of independent study in departments are 499 and 599. Independent study courses may be repeated. A student wishing to enroll in more than six units of independent study in any one semester must have the approval of his major adviser and of the chair of the department(s) in which the independent study is to be conducted.

INTERNATIONAL STUDY COURSES

Cal State Fullerton students under The California State University and Colleges International Study Programs register concurrently at Cal State Fullerton and at the host institution abroad, with credits assigned to the student which are equivalent to courses offered at Cal State Fullerton. Undergraduate students who discover appropriate study opportunities at the host Institution but no equivalent course at Cal State Fullerton may use Independent Study 499 and International Study 292 or 492. Graduate students may use Independent Graduate Research 599 and International Study 592.

292 Projects in Study Abroad (Subject): (1–6 lower division units)
Open to students enrolled in California State University and Colleges International Programs. Study undertaken in a university abroad under the auspices of The California State University and Colleges.

492 Projects in Study Abroad (Subject): (1–3 upper division units)
Open to students enrolled in California State University and Colleges International Programs. Study undertaken in a university abroad under the auspices of The California State University and Colleges.

592 Projects in Study Abroad (Subject): (1–3 graduate units)
Open to students enrolled in California State University and Colleges International Programs. Study undertaken in a university abroad under the auspices of The California State University and Colleges.

LIBRARY COURSES

201 Introduction to Library Resources (1)
A practical introduction to library materials and methods enabling undergraduate students to locate information for course-related, as well as independent, study and research.

54 8 7 190

300 Elements of Bibliographic Investigation (3)
An investigation of the elements of bibliographic research which will enable students to become sophisticated library users. Will discuss such topics as: the organization of knowledge in libraries, a survey of important research materials in various fields found in American libraries; how to prepare bibliographies and assemble information for term papers; and style manuals.

302 Library Research Methods for Specific Majors (1)
An intensive study of library research methodology in special subject areas such as science and music.

POST-BACCALAUREATE COURSES

Occasionally, academic units wish to provide opportunity for post-baccalaureate students who do not wish additional degrees as they pursue coursework subsequent to their baccalaureate. These courses (a) are not intended to be part of any degree program, (b) do not carry a departmental prefix, (c) are not graduate quality but are rigorous and more demanding than undergraduate courses with similar content, and (d) are developed for individuals who have earned the baccalaureate, often from a variety of other institutions and in a variety of fields.

The purposes of the courses include: (a) extending professional development within the student's major, area, and/or (b) developing proficiency in an area outside the student's major area, and (c) enhancing the individual's professional advancement.

The descriptions of the post-baccalaureate courses listed below may be found in the catalog copy at the end of the course descriptions offered by the department.

301 Basic Spanish Conversations (offered by the Department of Foreign Languages and Literatures, see page 270)

303 Review of Applied Mathematics for Engineers (offered by the Division of Engineering, see page 404)

305 Student Teaching with Exceptional Children (offered by Special Education Faculty, see page 187)

306 Public School Practicum in Communicative Disorders (offered by the Department of Speech Communication, see page 349)

307 Seminar: Speech and Hearing Service in the Schools (offered by the Department of Speech Communication, see page 349)

308 Seminar in Mathematics Education (offered by the Department of Mathematics, see page 413)

309 Independent Research (offered by the Department of Mathematics, see page 413)

310 Seminar in Science Education (offered by the Department of Science Education, see page 423)

CROSS-DISCIPLINARY UNIVERSITY PROGRAMS

There are two types of cross-disciplinary university programs: joint degree programs and non-degree programs. The joint degree program is an endeavor involving two or more existing academic departments which need not be within the same school. Such programs are administered by program councils composed of representatives elected by participating departments. The joint degree programs are housed in administration units as follows:

School of Human Development and Community Service
Child Development, B.S.
Human Services, B.S.

School of Humanities and Social Sciences
Latin American Studies, B.A.
Liberal Studies, B.A.
Russian and East European Area Studies, B.A.
Social Sciences, M.A.

School of Mathematics, Science and Engineering
Computer Science, B.S., M.S.
Environmental Studies, M.S.

The degree descriptions are located within the appropriate schools.

BILINGUAL/CROSS-CULTURAL STUDIES

The Board of Bilingual/Cross-Cultural Studies was developed in 1974 as a result of interest in, and concern for, bilingual/cross-cultural studies both on the university campus and within the community. Its purposes are: (1) to provide a forum for the exchange of ideas pertaining to bilingual/cross-cultural education; (2) to promote the development of programs of study with a bilingual/cross-cultural focus, both for teacher candidates and for all majors who desire such an emphasis; (3) to conduct research and planning operations leading to the development of such programs.

In 1975 an Institute for Bilingual/Cross-Cultural Studies was established to coordinate with existing programs of bilingual/cross-cultural studies; to help in the implementation of new programs; to implement seminars, publications and conferences; to maintain archives; and to conduct further research in all areas of bilingual/cross-cultural studies.

As a result of the efforts of these two bodies, it is now possible for students, other than teacher candidates, to pursue a course of study with a bilingual/cross-cultural emphasis. Such students (i.e., international business, history, engineering, humanities, etc.) may complete their general education requirements by choosing courses from a selected outline which gathers together listings of all currently available courses with appropriate emphases.

Complete course listings and details are available from the Department of Foreign Languages and Literatures, the Department of Chicano Studies, and Educational Opportunity Program advisers.

INTERDISCIPLINARY CENTER

In order to facilitate communication and interaction among faculty in different disciplines, as well as exploration of those areas of knowledge which substantively or methodologically involve more than one academic department or joint degree program, the Interdisciplinary Center was established. The goals of this center are to foster academic community and to promote academic excellence through encouraging, coordinating, and when necessary negotiating: (a) multidisciplinary teaching and scholarship; (b) development of interdisciplinary perspectives among those individual faculty who find them appropriate for their academic disciplines; (c) departmental and joint degree program interaction with Interdisciplinary Center activities; and (d) development of Interdisciplinary Center courses.

The Interdisciplinary Board has established the theme of the center for 1977–78 to be the impact of global interdependence on individuals, groups and nations. Space age communications make it increasingly difficult for peoples or countries to remain in isolation of each other. Developed and developing nations must often cope with similar issues and problems in relationship to their cities, economics, labor, etc. Do these international issues lead to a world community or do they thrust global populations into conflict and war? The center will explore this question and others through its theme of internationalism.

Participants in this program will have the special privilege of interacting with several schools and faculty from numerous and diverse departments. This will enable them to examine a single topic from the perspective of different disciplines.

The board has approved the topics of Social Responsibility and Knowledge Delivery Systems to follow the present theme of Internationalism.

SPECIAL MAJOR PROGRAM

From the total curriculum of the university, students may wish to plan a specially designed program of study that does not duplicate significantly any existing major or concentration at Cal State Fullerton. The special major (B.A. or M.A.) provides opportunities for selected students to pursue individualized programs of study leading to a degree when legitimate academic and professional goals can be satisfied by a judicious selection of courses from two or more fields; and these aims cannot be satisfied by the authorized standard degree majors that are available on the campus. This major, designed for exceptional cases of individual students only, provides an opportunity to develop concentration or specializations outside the framework of existing majors. *(It is not intended as a means of bypassing normal graduation requirements or as a means by which students may graduate who fail to complete the degree in which they are enrolled.)*

B.A. SPECIAL MAJOR

1. Students desiring to work for a bachelor's degree with a special major will consult with the Interdisciplinary Center Office and fill our initial request form available at the Interdisciplinary Center Office.

61 8 7 225

2. Entrance to the special major is normally during the junior year. Under no conditions may a student enter the special major with less than 30 units remaining for graduation.
3. The minimum requirements for a special major should be a program of at least 24 semester units of upper division work recommended by the student's faculty adviser.
4. Neither lower division nor upper division courses applied to general education-breadth requirements will be applicable toward the minimum special major degree requirements.

M.A. SPECIAL MAJOR

1. A graduate student desiring to work for a master's degree with a special major will consult with the Interdisciplinary Center Office and fill out an initial request form available at the Interdisciplinary Center Office or the university Graduate Office.
2. Entrance to the special major program requires a grade-point average (GPA) of 3.0 in the undergraduate major and a GPA of 3.0 in the last 60 units of coursework.
3. The minimum requirement of units in the special major program is 30 units of which at least half must be graduate courses (500 level).
4. A thesis or project shall be required for the completion of the program. The completed thesis will be filed with the Library, whereas the project shall be filed with the Office of Graduate Studies.

TECHNOLOGICAL STUDIES PROGRAM

The purpose of the program in technological studies is to promote interdisciplinary research, study and teaching on the significance of science and technology.

The program offers an opportunity to study the nature and impact of science and technology from a broader perspective than would be afforded by any one traditional department, while retaining the standards of intellectual quality which are maintained in traditional disciplines.

Work in technological studies forms a supplement to work in some other field which is the student's major. (See the program coordinator for further details.)

The program is designed (a) to supplement technical training with a study of technology from a humanistic and social scientific perspective in which the student may hope to achieve some understanding of the social impact of scientific and technological activity, and (b) to produce informed critics of science and technology by supplementing other fields of study with courses focused on problems associated with science and technology, and by giving guidance to students in becoming technically knowledgeable.

The program consists of a minimum of 21 units, 12 of which are to be in upper division courses.

The university is in process of developing a minor in technological studies. (See program coordinator for further details.)

TECHNOLOGICAL STUDIES COURSES

100 Introduction to Technological Studies (3)
An examination of technology as a distinctive human activity comparable in significance to the arts and politics. The evolution and current revolutions in technology (examples: transportation and energy) are studied with emphasis on the logic and impact of innovation.

103 The Computer Revolution (3)
(Same as Engineering 103)

104 Science and Public Policy (1)
(Same as Physics 104)

105 Fads and Fallacies in the Name of Science (1)
(Same as Physics 105)

106 Principles of Air Pollution (1)
(Same as Physics 106)

107 Nuclear Energy and Its Impact on Society (1)
(Same as Physics 107)

111 Economics of Utopia (3)
(Same as Economics 111)

207 Pollution and Politics (3)
(Same as Engineering 207)
208 Current Technological Problems in Southern California (3)
(Same as Engineering 208)
220 New Energy Sources (3)
(Same as Engineering 220)
230 Topics in the History of Science and Technology (3)
(Same as History 230)
250 People and Machines (3)
(Same as Philosophy 250)
300 Rationalism and Empiricism (3)
(Same as Philosophy 300)
351 Science Fiction (3)
(Same as English 351)
360 Human Ecology (3)
(Same as Sociology 360)
370 Economics of Research, Development and Technological Change (3)
(Same as Economics 370)
384 Philosophy of the Natural Sciences (3)
(Same as Philosophy 384 and Physics 384)
418 Public Policy Process (3)
(Same as Political Science 418)
425 Darwinism in American Literature (3)
(Same as English 425 and American Studies 425)
428 Communications and Social Change (3)
(Same as Communications 428)
429 Economic Anthropology (3)
(Same as Anthropology 430)
430A History of Science: Ancient to Renaissance (3)
(Same as History 430A)
430B History of Science: Copernicus to the Present (3)
(Same as History 430B)
435 Philosophy of Science
(Same as Philosophy 435)
460 Culture Change (3)
(Same as Anthropology 460)
479 The Urbanization of American Life (3)
(Same as History 479)
482 Environmental Policy and Politics (3)
(Same as Political Science 482)

65 8 7 245

the arts



SCHOOL OF THE ARTS

Dean: Jerry Samuelson
Associate Dean: Donald R. Henry

DEPARTMENT OF ART

FACULTY
Donald Lagerberg
Department Chair

Robert Baron, Robert Caddes, Carole Caroompas, Alvin Ching, Eileen Cowin, Darryl Curran, Naomi Dietz, Henry Evjenth, Robert Ewing, Dextra Frankel, Carmel Goode, Maurice Gray, Ray Hein, Thomas Holste, George James, Claude Kent, G. Ray Kerciu, Ruth Kline, Clinton MacKenzie, Robert Partin, Albert Porter, Leo Robinson, Jerry Rothman, Jerry Samuelson,* Vic Smith, Jon Stokesbary, Vincent Suez.

The Department of Art offers a program which includes the several fields of art history, theory and appreciation; drawing, painting, sculpture; design and crafts; and art education. The broadest objective of the program is to contribute to the intellectual, social, and creative development of the student as he prepares for citizenship in a democratic society. More specifically, the art program provides opportunities for students: (1) to develop a knowledge and understanding of those general principles of visual organization and expression basic to all forms and fields of art; (2) to develop a critical appreciation and understanding of historical and contemporary art forms through a study of these principles as they relate to the range of artistic production of mankind; (3) to use these general principles as a means to express more clearly their ideas, thoughts, and feelings in the creation of visual forms; (4) to develop those understandings and skills needed to pursue graduate studies in the field, to teach art in the schools, or to qualify for a position in business and industry as an art specialist.

Undergraduate curricula leading to the bachelor of arts degree have been designed to meet the specialized needs of the following groups: (1) students who wish to study art as an essential part of their personal and cultural development; (2) students seeking preprofessional preparation in art; and (3) students planning to teach art in grades K–12.

To qualify for a baccalaureate degree with a major in art, students must have a C or better in all courses required for the degree. No credit toward the major will be allowed for specific major courses in which a grade of D is obtained.

BACHELOR OF ARTS IN ART

Three course programs have been planned to meet the individual needs and interests of students working for the bachelor of arts degree with a major in art. In the development of specific course offerings which make up these programs, it has been the concern of the art faculty to see that each program contains: (1) basic courses in art history, theory, appreciation, and studio practice which have as their primary focus the study of those general principles of visual organization and expression underlying all fields of art: (2) more specialized courses which provide for adequate preparation in depth in a single field of art. The teaching of art history, theory, and criticism is not confined to courses bearing that title. Rather, each studio course involves theory as well as the practice of art, includes as part of its content the study and reference to related historical art forms, and has as part of its purpose the development of those critical abilities which are necessary to evaluation and appreciation of the art expressions of man.

Plan I provides for an emphasis in the area of art history, theory, and appreciation and is particularly recommended for those students who wish to pursue graduate studies in art history or museology.

Plan II is designed for those students who prefer a studio-type program with a preprofessional orientation and an area of specialization selected from the following: (1) drawing and painting; (2) printmaking; (3) sculpture; (4) crafts; (5) ceramics; (6) graphic design; (7) illustration; (8) environmental design; or (9) creative photography.

Plan III is for those students who wish to meet the requirements for single subject instruction (Ryan Act) for teaching art in grades K-12.

* University administrative officer

Plan I requires a minimum of 60 units in art or approved related courses with a minimum of 36 units of upper division in art. Plan II requires a minimum of 60 units in art with a minimum of 33 units of upper division in art. Plan III requires a minimum of 54 units of art including a minimum of 27 units of upper division art.

In addition to the requirements listed below for the major, students must meet the other university requirements for a bachelor of arts degree (see page 66). Students following Plan III also must meet any specific requirements for the desired teaching credential (see section in catalog for School of Education).

PLAN I: ART HISTORY EMPHASIS *Units*

Preparation for the Major: Art history 201A,B (6 units); 6 units of studio courses; approved electives (12 units) in art, anthropology, drama, foreign languages, history, literature, music or philosophy 24

The Major: Art history (18 units) including one course from each of the following six groups: 301-302; 312; 341; 411-412; 431-432; 451-452; 481; an additional three courses (9 units) to add depth in three of the above groups; and three courses (9 units) of approved electives 36

Reading knowledge of one modern foreign language

PLAN II: STUDIO EMPHASIS

Drawing and Painting

Preparation for the Major: Art 201A,B; 107A,B; 103; 104; 117 (3 units) and 207A,B 27

The Major: Art 307A,B; 317A,B; 487A,B or C (6 units); 6 units of upper division art history and 9 units of art electives 33

Printmaking

Preparation for the Major: Art 201A,B; 107A,B; 247; 117 (3 units); 103; 104; and 3 units of art electives 27

The Major: Art 347A,B; 487D (6 units); 307A; 317A; 6 units of upper division art history; and 9 units of art electives 33

Sculpture

Preparation for the Major: Art 201A,B; 107A,B; 103; 104; 216A,B; 117 (3 units) 27

The Major: Art 316A,B; 336A,B; 486 (6 units); 6 units of upper division art history; and 9 units of art electives 33

Crafts

Preparation for the Major: Art 201A,B; 107A,B; 103; 104; 205A; and 6 units selected from Art 206A, 123B, 205B, 216A, or 117 (3 units) 27

The Major—General Concentration: Art 305A, 315A; 325A; 330 or 355A or 365A; 6 units of upper division art history and 15 units selected from Art 305B, 315B, 316A, 325B, 338A, 485A, 485B, 485C, 485D or 485E 33

The Major—Jewelry/Metalsmithing Concentration: Art 305A; 315A, B; 325A,B; 6 units of upper division art history; 6 units selected from Art 305B, 330, 355A, 365A or 338A; and 6 units selected from 485A or 485C 33

The Major—Fibers Concentration: Art 355A,B; 6 units selected from 330, 485D or 385E; 6 units of upper division art history; and 9 units of art electives 33

Ceramics

Preparation for the Major: Art 201A,B; 107A,B; 103; 104; 206A,B; 117 (3 units) 27

The Major: Art 306A,B; 326A,B, or 426A,B; 484 (6 units); 6 units of upper division art history and 9 units of art electives 33

Graphic Design

Preparation for the Major: Art 201A,B; 107A,B; 103; 104; 223A,B; 117 (3 units) 27

The Major: Art 323A,B; 483A (6 units); 338A; 363A; 6 units of upper division art history; and 9 units of art electives 33

Illustration

Preparation for the Major: Art 201A,B; 107A,B; 103; 104; 123A; 117 (3 units); and 3 units of art electives 27

The Major: Art 363A,B; 483C (6 units); 317A,B; 323A; 6 units of upper division art history; and 6 units of art electives 33

Environmental Design

Preparation for the Major: Art 201A,B; 107A,B; 103; 104; 213A; 123B; and 3 units of art electives 27

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72 8 7 280

The Major: 313A,B; 333A,B; 483B (6 units); 453A; 6 units of upper division art history and 6 units of art electives 33

Creative Photography

Preparation for the Major: Art 201A,B; 103; 104; 107A,B; 117 (3 units); 247; and 3 units of art electives 27

The Major: 338A,B; 489 (6 units); 347A; 6 units of upper division art history; and 6 units selected from 323A, 363A, 307A, 347B, or 443A; and 6 units of art electives 33

PLAN III: TEACHING EMPHASIS

Single Subject Instruction—Ryan Act

(Qualifies for teaching Art in grades K-12)

Preparation for the Major: Art 103; 104; 206A; 107A,B; 3 units of 117; 201A,B; and 205A 27

The Major: (Select one of the following)

Drawing and Painting: 307A,B; 316A, 317A; 338A; 347A; 402, 411 or 412; and 441A,B 27

Crafts: 305A; 306A,B; 307A; 315A; 330; 402, 411 or 412; and 441A,B 27

Graphic Design and Photography: 307A; 323A,B; 338A,B; 363A, 402, 411 or 412; and 441A,B 27

Professional Preparation

Art Ed 442 3

Education coursework 9

Student teaching (one semester full time) 12

Program Requirements:

1. Assignment by the Art Department chair to a faculty adviser in art education.
2. Fulfill credential requirements listed in this catalog within the School of Education for the curriculum pertinent to the Ryan Act provisions.
3. Meet the requirements listed under Plan III, Teaching Emphasis for the bachelor's degree in art.
4. Completion of major and education course requirements prior to enrolling in student teaching.
5. Admission to teacher education through the School of Education is required prior to enrollment in Art Ed 442 and student teaching.
6. Acceptance for student teaching is based on candidate quotas, a review of a candidate's portfolio of art work, and evidence of success in university coursework completed.
7. Recommendation by the faculty adviser in art education.

Upon completion of the above program and the bachelor of arts degree, the student is eligible for a partial credential, which meets state requirements for teaching in grades K–12. Within a specified period of time from the beginning of a teaching assignment, 30 units of coursework must be completed at an accredited college or university to qualify for a full credential. Credentials are issued from the institution where this unit requirement has been completed.

Multiple Subject Instruction—Ryan Act

The following three courses are recommended for all students intending to teach in the elementary schools in multiple subject classrooms:

	Units
Art 380	3
Music 333	3
Theatre 402	3
	9

The following additional list of courses would be strongly recommended for any student who wishes to expand his knowledge in any or all of the arts:

Art 100, 101, 103, 104, 107A, 115, 201A,B, 310A,B, 330, 380, and 441A,B

Dance 100, 112, 122, 125A,B, 132, 142, 152, 162, 206A,B, 316A,B, 323, 422

Music 111A,B, 184A,B, 251, 281A,C,E,G, 283A, 381B, 435

Theatre 100A,B, 211, 263A, 276A, 277, 370A,B, 402, 403, 411C

MINOR IN ART FOR THE BACHELOR OF ARTS DEGREE

A minimum of 24 units is required for a minor in art for the bachelor of arts degree of which a

minimum of 10 units must be in upper division courses. Included in the program must be a basic course in each of the following areas: (1) art history and appreciation; (2) design; (3) drawing and painting; and (4) crafts. Those students planning to qualify for a standard teaching credential with specialization in elementary or secondary teaching and art for a minor must obtain approval from the Art Department for the courses selected to meet the upper division requirements for a minor in art.

MASTER OF ARTS IN ART

The program of studies leading to the master of arts degree in art provides a balance of theory and practice for those who desire to teach art or wish to develop a sound basis for continued advanced work in this field. The program offers each student the opportunity to expand his intellectual and technical resources and to acquire greater richness and depth in terms of creative understanding and achievement in one of the following areas of concentration: (1) drawing and painting (including printmaking); (2) crafts (including ceramics); (3) design; (4) sculpture; and (5) art history.

Prerequisites

1. Conditionally classified standing
   - A. A baccalaureate degree from an accredited institution.
   - B. GPA minimum of 2.5 in the last 60 semester units attempted.
   - C. Special requirements:
     - (1) Studio emphasis: review of preliminary portfolio by department chair.
     - (2) Art history emphasis: satisfactory score on the Educational Testing Service Undergraduate Record Exam—Area Tests and preliminary interview by art history coordinator. Also note statement below concerning the portfolio review.
2. Classified standing
   - A. A baccalaureate degree from an accredited institution.
   - B. GPA minimum of 2.5 in the last 60 semester units attempted.
   - C. Special requirements:
     - (1) An undergraduate major in art of 24 units of upper division art including at least 12 units of upper division study in the elected area of concentration with a GPA of 3.0 or better.
     - (2) Portfolio review—before any units may apply to the approved study program for the degree, the student must arrange for a faculty committee evaluation of the student's background, including a statement of purpose by the student and review of creative work; or, for art history applicants, submission of an assigned research topic. Portfolio review dates are the first Friday in April for the following fall semester, and the first Friday in November for the following spring semester of each year. Arrangements may be made through the Art Department office to meet these deadlines prior to admission.
   - D. Development of an approved study plan.

Study Plan

The degree program requires 30 units of graduate study approved by the student's graduate committee of which 15 must be 500-level courses. The 30 units are distributed as follows:

	Units
1. Core courses in art history, philosophy, analysis and criticism	9
A. Art 500A Graduate Seminar in Major Field (3 units) (admission for students with classified standing only)	
B. Art 500B Graduate Seminar in Major Field (3 units) (admission for students with classified standing only)	
C. Art 481 Seminar in Art History (3 units), or substitute of a 400-level art history course, or Philosophy 311, Aesthetics, on the recommendation of the major adviser.	
2. 500- and/or 400 level courses in the area of concentration selected from one of the following areas (minimum of six units at 500-level)	12
A. Drawing and painting (including printmaking)	
B. Crafts (including ceramics)	
C. Design	
D. Sculpture	
E. Art history	
3. Additional coursework in area of concentration approved electives	3–6
4. Project or thesis	3–6
Total	30

All courses must be completed with a B average, and all courses in the area of concentration must be graded B or better. The Department of Art requires the candidate for the Master of Arts in Art Degree to exhibit his or her project in the department upon completion of the degree and the art faculty reserves the right to retain an example from the student's master's exhibit for the university collection.

For further information, consult the Department of Art.

See also "The Program of Master's Degrees" in this catalog and the *Graduate Bulletin.*

ART COURSES

100 Exploratory Course in Art (3)
Exploration and creative use of a variety of art materials, processes, and concepts. Field trips required. Not open to art majors for credit except by permission of Art Department. (6 hours activity)

101 Introduction to Art (3)
A course for the general student designed to develop an understanding of historical and contemporary art forms. Illustrated with examples of painting, sculpture, architecture, and design. Field trips required. Not open to art majors for credit except by permission of Art Department.

103 Two-dimensional Design (3)
The inventive use of materials, tools and elements of plastic organization as related to a two-dimensional surface (6 hours activity)

104 Three-dimensional Design (3)
The inventive use of materials, tools and elements of plastic organization as related to three-dimensional form. (6 hours activity)

107A,B Beginning Drawing and Painting (3,3)
Beginning work in the creative use of the materials of drawing and painting with emphasis on visual concepts, use of medium, individual exploration, and growth, planning and craftsmanship. 107A emphasizes drawing; 107B emphasizes painting. (9 hours laboratory)

117 Life Drawing (1)
Drawing from the live model. May be repeated to a maximum of 4 units. (3 hours laboratory for each unit)

123A,B Descriptive Drawing (3,3)
An intensive study of traditional and contemporary drawing techniques and theories. Emphasis in 123A on representation of nature forms and in 123B on manmade and mechanical forms including linear perspective. (9 hours laboratory)

201A,B Art and Civilization (3,3)
A comparative survey of the basic ideas, forms and styles of the visual arts as they developed in various cultures from prehistoric time to the present day.

205A Beginning Crafts (3)
Prerequisites: Art 103 and 104. Art 104 may be taken concurrently. A study and evaluation of craft concepts, processes and materials as they relate to the development of aesthetic forms based on function. (6 hours activity)

205B Beginning Crafts: Wood (3)
Prerequisites: Art 103 and 104. Art 104 may be taken concurrently. A study and evaluation of woodworking concepts and processes as they relate to the development of wood into aesthetic form based on function. (6 hours activity)

206A Beginning Ceramics (3)
Prerequisite: Art 103. A basic course in the study of form as related to ceramic materials, tools, processes, and concepts including kiln loading and firing, hand building, wheel throwing and raku. (6 hours activity)

206B Beginning Ceramics (3)
Prerequisites: Art 103, 206A. A basic course in the study of form as related to ceramics, with an emphasis on glaze batching, and its practical application, and the presentation of a ceramic technique. (6 hours activity)

207A,B Drawing and Painting (Experimental Methods and Materials) (3,3)
Prerequisites: Art 117, 107A,B or equivalents. An intensive study of traditional and contemporary methods and materials as they relate to current approaches in drawing and painting. (9 hours laboratory)

213A Beginning Environmental Design (3)
Prerequisites: Art 103 and 104. An introduction to design methodology and communication skills related to the environmental design field. (6 hours activity)

216A,B Beginning Sculpture (3,3)
Prerequisite: Art 104. An introductory course in sculpture with emphasis on the creative use of wood and metal, power equipment and hand tools. (6 hours activity)

223A,B Lettering, Typography and Rendering (3,3)
Prerequisite: Art 103. A study of the history, design and use of letter forms including techniques for rough and comprehensive layouts and the use of both hand-lettered forms and handset type. (6 hours activity)

247 Beginning Printmaking (3)
Prerequisite: Art 107A,B. An introductory course of all printmaking forms to include litho, etching, woodcut and serigraphy. (6 hours activity)

288 Design for the Theatre (3)
(Same as Theatre 288)

301 Ancient Art (3)
A study of the developments in art from the Paleolithic to the period of late antiquity.

302 Medieval Art (3)
A study of the developments in art from the period of late antiquity through the Gothic.

305A Advanced Crafts (3)
Prerequisite: Art 205A. Study and evaluation of craft concepts, processes, and materials as they relate to the development of aesthetic forms based on function. (9 hours laboratory)

305B Advanced Crafts: Wood (3)
Prerequisite: Art 205B. A study and evaluation of craft concepts and processes as they relate to the development of wood into utilitarian and aesthetic form. (9 hours laboratory)

306A,B Advanced Ceramics (3,3)
Prerequisite: Art 206A,B. Further experiences in the study and evaluation of forms as related to the creative use of ceramic concepts and materials including design, forming, glazing and firing. (6 hours activity)

307A,B Drawing and Painting (3,3)
Prerequisites: Art 117, 107A,B, 207A,B or equivalents. The study, evaluation and creative use of the concepts and materials of drawing and painting with emphasis on individual exploration, growth, planning and craftsmanship. (9 hours laboratory)

310A,B Painting for Teachers: Watercolor Media (3,3)
Prerequisite: Art 107A,B or equivalents. An exploration of watercolor media as they relate to a variety of subject and design applications. Provides skills relevant to school art programs. Includes field painting experiences. (6 hours activity)

311 Art and the Modern Mind (3)
The visual arts in the context of modern thought. A general approach for the non-art major. A slide lecture and discussion approach to art and the ideas and influences of McLuhan, Freud, Jung, Wittgenstein, Levi-Straus, Skinner, etc.

312 History of Architecture (3)
Architecture from antiquity to the present. Buildings will be studied in terms of their relationship to the societies which produced them, their symbolic content and their contributions to the evolution of western architectural tradition.

313A Environmental Design: Unit Concepts (3)
Prerequisites: Art 103, 104 and 213. Environmental design projects related to the study of unit concepts. (6 hours activity)

313B Environmental Design: Systems Concepts (3)
Prerequisite: Art 313A. Environmental design projects related to the study of systems concepts. (6 hours activity)

315A,B Jewelry (3,3)
Prerequisites: Art 205A and 305A. Art 305A may be taken concurrently. Design and creation of jewelry. (9 hours laboratory)

316A,B Sculpture (3,3)
Prerequisites: Art 104 and 216A. A study of basic sculptural processes using a variety of materials and processes. (9 hours laboratory)

83 8 7 335

317A,B Advanced Life Drawing (3,3)
Prerequisite: three units lower division life drawing. Drawing and painting from the live model. (9 hours laboratory)

323A,B Graphic Design (3,3)
Prerequisites: Art 103 and 223A. Development and projection of ideas in relation to the technical, aesthetic, and psychological aspects of advertising art. (6 hours activity)

325A,B Metalsmithing (3,3)
Prerequisites: Art 205A and 305A. Art 305A may be taken concurrently. A study and evaluation of fundamental metalsmithing concepts, processes and materials as they relate to the aesthetic development of utilitarian forms, raising, silversoldering, forging, casing, engraving, chasing and repousse. (9 hours laboratory)

326A,B Ceramic Sculpture (3,3)
Prerequisites: 306A,B. Development of basic ceramic technology into individual sculptural forms and techniques. (6 hours activity)

327A,B Supergraphics (3,3)
The design and production of environmental painting. Team and individual projects. A variety of advanced technical means are employed. Studio and lecture. A historical survey of environmental painting, concepts and techniques is included. (6 hours activity)

330 Fibers and Fabrics, Non-woven Techniques (3)
Prerequisites: Art 103, 104 or 205A or B, or consent of instructor. Exploration of concepts of design using knotting, crochet, fabric manipulation, basketry, stitchery and applique as techniques applied to the creation of art works. (6 hours activity)

333A Environmental Design (3)
Prerequisite: Art 313B. Materials and structural concepts as design determinants. (6 hours activity)

333B Environmental Design (3)
Prerequisite: Art 333A. The demands of change and growth as design determinants, and evaluation of experimental design concepts and methods. (6 hours activity)

336A,B Casting Techniques and Theories of Cast Sculpture (3,3)
Prerequisite: Art 316A. Projects in various waxing, molding and metal casing techniques. Media with emphasis on aluminum and bronze and the lost wax process. (9 hours laboratory)

338A Creative Photography (3)
Prerequisite: Art 103 or its equivalent. Exploration of the photographic media as a means of personal expression. Historical attitudes and processes are discussed in relationship to new materials and contemporary aesthetic trends. Field trips required. (9 hours laboratory)

338B Creative Photography (3)
Prerequisite: Art 338A. Further exploration of the photographic medium as a means of personal expression. Historical and new processes introduced as a vehicle toward the individual student's personal goal. Field trips required. (9 hours laboratory)

341 Art of India (3)
A survey of the art and architecture of India which includes Hindu, Buddhist and Muslim influences from the pre-Indus Valley civilization to the decline of Muslim rule.

347A Printmaking—Etching (3)
Prerequisites: Art 107A,B, 247, and 117. Development of concepts and exploration of materials involved in printmaking including etching and aquatint. (9 hours laboratory)

347B Printmaking—Lithography (3)
Prerequisites: Art 107A,B, 247, and 117. Development of concepts and exploration of materials and techniques involved in lithography printing. (9 hours laboratory)

355A,B Fibers: Fabric Printing and Dyeing (3,3)
Prerequisites: Art 103, 107A or B or consent of instructor. Exploration of concepts of design as they relate to fabric surfaces with emphasis on various printing techniques and dyeing techniques applied to the creation of art works. (6 hours activity)

363A,B Illustration (3,3)
Prerequisites: Art 103, 107A,B and 117. Development and projection of ideas relative to the needs of story, book, magazine, and film illustration. (6 hours activity)

365A,B Fibers: Weaving (3,3)
Prerequisites: Art 103, 104 or 205A,B or consent of instructor. Exploration of concepts of design using various weaving techniques and learning the uses of a loom applied to the creation of art works. (6 hours activity)

380 Art and Child Development (3)
The study and evaluation of art concepts, materials, and processes as they relate to and promote child development. (6 hours activity)

381 Early Childhood Development in Art (3)
A variety of studio activities as they relate to early child art based on research of the behavioral sciences having relevance for the understanding of the child's artistic development. (6 hours activity)

401 Criticism of the Arts (3)
Prerequisite: senior or graduate standing in the School of Arts or consent of instructor. Development of criteria and vocabulary for criticism of the visual and performing arts through lectures, readings, discussions, and exhibit and performance attendance. Emphasis on descriptive and evaluative skills in music, art, theatre, dance and cinema criticism.

402 Contemporary Art (3)
An exploration of critical perspectives and esthetics in terms of specific works of art and the relationship between art and society.

411 Foundations of Modern Art (3)
Basic problems of painting and sculpture of the realism, impressionism, post-impressionism periods.

412 Art of the 20th Century—1900 to Present (3)
Fundamentals of modern painting, graphics and architecture.

421 Oriental Art; China (3)
A study of the historical development of the arts of China and their relation to Chinese philosophy and culture.

423 Film Animation (3)
Prerequisites: Art 103, 104, 107A,B and 117. Aesthetic and technical considerations of animation applied in the production of film. (6 hours activity)

426A,B Glass Forming (3,3)
Prerequisites: Art 206A,B, 306A, and consent of instructor. A course in the chemistry, handling and manipulation of glass and its related tools and equipment for the ceramic artist. (6 hours activity)

431 Renaissance Art (3)
Basic problems of painting, sculpture and architecture of the Renaissance period. Lectures, discussion and field trips.

432 Baroque and Rococo Art (3)
Basic problems of painting, sculpture and architecture of the Baroque and Rococo period. Lectures, discussion and field trips.

441A,B Media Exploration for Teaching Art (3,3)
Prerequisites: Art 103, 104, 107A,B, 205A or consent of instructor. Provides a wide range of opportunities for exploring the art media used in secondary school art programs today. Deals with materials appropriate for secondary art curriculum. Offers creative investigation of two and three dimensional media in a variety of subject matter applications. (6 hours activity)

443A,B Film Making (3,3)
Development of film as a visual art form. (6 hours activity)

451 Oceanic Art (3)
An introductory survey of the styles of the aborginal people of the following regions: Australia, Melanesia, Micronesia, Polynesia and Indonesia.

452 Art of Sub-Saharan Africa (3)
An introduction by region and tribal group to the art forms of West Coastal Africa and the Sudan, Niger River kingdoms, Yoruba kingdoms, Cameroon chieftainships, Congo tribes, Central Africa and East Coastal Africa.

453A,B Display and Exhibition Design (3,3)
A course in the appropriate and creative use of materials, processses, and design concepts as they relate to the special problems involved in the planning and preparing of displays exhibit, bulletin boards, wall cases and art portfolios. (More than 9 hours laboratory)

481 Seminar in Art History (3)
Prerequisite: consent of instructor. Opportunities for intensive study and evaluation in one area of art history and appreciation.

89 8 7 365

483 Special Studies in Design (3)
Prerequisite: consent of instructor. Opportunity for intensive study in the design areas listed below. Each area listed may be repeated to a maximum of 12 units, but no more than 3 units of credit may be obtained in any one area in a single semester.

483A Graphic Design (6 hours activity)
483B Environmental Design (6 hours activity)
483C Design and Composition (6 hours activity)
483D Display Design (More than 9 hours laboratory)

484A Special Studies in Ceramics (3)
Prerequisite: a minimum of six upper division units in ceramics. Course may be repeated to a maximum of 12 units, but not more than three units of credit may be obtained in any one area in a single semester. (6 hours activity)

484B Special Studies in Glass (3)
Prerequisite: A minimum of six upper division units in glass. Course may be repeated to a maximum of 12 units, but not more than three units of credit may be obtained in any one area in a single semester. (6 hours activity)

485 Special Studies in Crafts (3)
Prerequisite: a minimum of six upper division units in designated area or consent of instructor. Opportunity for intensive study in the craft areas listed below. Each area listed may be repeated to a maximum of 12 units, but no more than three units of credit may be obtained in any one area in a single semester. (6 hours activity)

485A Jewelry
485B General Crafts
485C Metalsmithing
485D Fibers—Weaving
485E Fibers—Fabric Printing and Dyeing
485F Fibers and Fabrics

486 Special Studies in Sculpture (3)
Prerequisites: Art 316A,B and consent of instructor. Opportunity for intensive study in the following sculptural processes. May be repeated to a maximum of 12 units but no more than three units of credit may be obtained in a single semester. (6 hours activity)

486A Modeling and Fabrication
486B Casting

487 Special Studies in Drawing and Painting and Printmaking (3)
Prerequisites: a minimum of six upper division units and consent of instructor. Opportunity for intensive study in the drawing and painting areas listed below. Each area listed may be repeated to a maximum of 12 units, but no more than three units of credit may be obtained in any one area in a single semester. (9 hours laboratory)

487A Painting
487B Life Drawing
487C Drawing
487D Printmaking

489 Special Studies in Creative Photography (3)
Prerequisite: Art 338A,B. Advanced projects in photography as a means of personal expression. May be repeated to a maximum of 12 units but no more than three units of credit may be obtained in a single semester. (6 hours activity)

498 Internship in Art (3)
Practical work experience in a specific art field in business or industry. Must be senior standing.

499 Independent Research (1–3)
Open to advanced students in art with consent of department chair and written consent of instructor. May be repeated for credit.

500A Graduate Seminar in Major Field (3)
Prerequisite: classified standing. Selected advanced problems and issues in art. Emphasis is on intellectual clarification and verbal articulation of individual intent as an artist. Each student will develop oral and written material in support of his master's project.

500B Graduate Seminar in Major Field (3)
Prerequisite: Art 500A. Directed research in the area of major emphasis. Each student will develop

oral and written material on historical backgrounds and developments in art as they relate to his intent as an artist (stated in Art 500A) and in support of his master's project.

503 Graduate Problems in Design (3)

Prerequisite: consent of instructor. Intensive study with emphasis on planning, development, and evaluation of individual projects in the design areas listed below. May be repeated to a maximum of 12 units in each area, but no more than three units of credit may be obtained in any one area in a single semester.

503A Graphic Design (6 hours activity)
503B Environmental Design (6 hours activity)
503C Design and Composition (6 hours activity)
503D Display Design (More than 9 hours laboratory)

504 Graduate Problems in Ceramics (3)

Prerequisite: consent of instructor. Intensive study with emphasis on planning, development and evaluation of individual projects in ceramics. May be repeated to a maximum of 12 units but no more than three units of credit may be obtained in a single semester. (6 hours activity)

505 Graduate Problems in Crafts (3)

Prerequisite: consent of instructor. Intensive study with emphasis on planning, development, and evaluation of individual projects in the crafts areas listed below. May be repeated to a maximum of 12 units but no more than three units of credit may be obtained in a single semester. (6 hours activity)

505A Jewelry
505B General Crafts
505C Metalsmithing
505D Fibers—Weaving, Fibers and Fabrics
505E Fibers—Fabric Printing and Dyeing

506 Graduate Problems in Sculpture (3)

Prerequisite: consent of instructor. Intensive study with emphasis on planning, development, and evaluation of individual projects in sculpture. May be repeated to a maximum of 12 units but no more than three units of credit may be obtained in a single semester. (6 hours activity)

507 Graduate Problems in Drawing and Painting (3)

Prerequisite: 12 units of upper division drawing and painting. Intensive study with emphasis on planning, development and evaluation of individual projects in the drawing and painting areas listed below. May be repeated to a maximum of 12 units but no more than three units of credit may be obtained in a single semester. (9 hours activity)

507A Painting
507B Life Drawing
507C Drawing
507D Printmaking

511 Seminar on the Content and Method of Art History (3)

Prerequisite: Art 481. Methods of research, compilation and use of bibliography, and investigation of theories and philosophies of art historical scholarship.

512 Seminar on Selected Topics in Art History (3)

Prerequisite: appropriate upper division Art course approved by instructor and Art 511 or consent of instructor. Analysis and evaluation of specific historical significance including cultural, social and economic circumstances; may be repeated to a maximum of 12 units but no more than 3 units of credit may be obtained in a single semester.

597 Project (3–6)

Prerequisites: Art 500A,B, written consent of instructor and recommendation of the student's graduate committee. Art 500B may be taken concurrently with Art 597 on approval of instructor. Development and presentation of a creative project in the area of concentration beyond regularly offered coursework.

598 Thesis (3–6)

Prerequisites: Art 500A,B, written consent of instructor and recommendation of the student's graduate committee. Art 500B may be taken concurrently with Art 598 on approval of instructor. Development and presentation of a thesis in the area of concentration beyond regularly offered coursework. No more than three units may be taken in any one semester.

599 Independent Graduate Research (1–3)

Open to graduate student in art with consent of department chair and written consent of instructor. May be repeated for credit.

ART EDUCATION COURSES

442 Teaching Art in the Secondary School (3)
Prerequisite: admission to teacher education. Objectives, methods, and materials including audiovisual instruction for teaching art in secondary school. Required before student teaching of student presenting majors in art for the standard teaching credential.

449A Student Teaching Secondary School, Art (10)
For candidates who have declared for the Ryan Act credential. See description and prerequisites under Division of Teacher Education. Concurrent enrollment in Art Education 449B is required.

449B Seminar in Secondary School Student Teaching, Art (2)
Seminar for student teachers in art dealing with the practical aspects of art instruction in secondary schools. Concurrent enrollment in Art Education 449A is required.

DEPARTMENT OF MUSIC

FACULTY

Benton Minor
Department Chair

Roger Ardrey, Charles Baker, Martha Baker, John Benham, David Berfield, Carole Chadwick, Andrew Charlton, John Cooksey, M'lou Dietzer, Rita Fuszek, J. Justin Gray, Su Harmon, Nors Josephson, Burton Karson, Leo Kreter, Michael Kurkjian, Joseph Landon, Gary Maas, Benton Minor, Jane Paul, Lloyd Rodgers, Madeline Schatz, Preston Stedman, Robert Stewart, Howard Swan, David Thorsen, Rodger Vaughan, Mary Mark Zeyen*

PART TIME

Metche Alexander (theory), Kalman Bloch (clarinet), Kay Brightman (bassoon), William Criss (oboe), Allen Davis (jazz), Roger Greenberg (saxophone), Sylvia Greenfield (flute), David Grimes (guitar), Ann Hand (music education), Esther Jones (organ), David McVey (organ), Todd Miller (percussion), Thomas Oberjat (voice), Jane O'Donnell (voice), Richard Pattie (guitar), Ami Porat (string bass), Jay Roberts (varsity band), James Self (tuba), James G. Stamp (trumpet), Susan Talevich (conservatory), Mary Ellen Trefry (flute), Leigh Unger (piano), Earle Voorhies (piano), Gerald Walker (oboe), Russell Widener (trombone & brass), Page Williams (theory), Ardelle Womack (music education)

The Department of Music offers courses for both majors and non-majors. The fundamental purpose of the music curriculum is threefold: (1) to promote excellence in all aspects of music and academic coursework; (2) to provide basic preparation for careers in music; and (3) to promote interest in all musical and artistic endeavors in the university and the surrounding community.

REQUIREMENTS OF THE DEPARTMENT OF MUSIC

1. All entering music majors must register for the Bachelor of Arts degree program for the first semester of residence. Students may change their degree objective to the Bachelor of Music program upon completion of at least one semester of coursework at the university, successful completion of an examination in applied music and recommendation of the coordinator in the appropriate area of concentration.
2. A placement audition in the principal performance area (student's voice or instrument), and proficiency examinations in theory and basic piano will be given to all music majors at the time of entrance to the university. Each student must pass the proficiency examination in theory and basic piano before being approved for graduation. The basic piano requirement may also be satisfied by successful completion of Mu 282B. Students deficient in any of the above areas will be advised to take additional coursework.
3. Each music major must declare a single principal performance area with the approval of a faculty adviser who will be assigned upon completion of the placement audition at the time of entrance. Before being approved for graduation, each student must achieve at least the 300 level of performance proficiency in his area of principal performance.
4. Each music major is required to present a senior recital appropriate to his degree program before being approved for graduation. In the music history and theory, conducting, composition, accompanying and musical theatre programs, this requirement may be met by some means other than a conventional recital. All junior recitals and B.A. senior performance recitals

* University administrative officer

are done in conjunction with enrollment in Music 371. B.M. senior recitals and B.A. recitals in history, theory, and conducting are done under Music 498. Consult the appropriate coordinator for more specific information.

5. All undergraduate music majors are required to participate in a major performance ensemble (band, orchestra, opera or chorus) every semester. Students who declare wind or percussion as their principal performance area must register for band (or orchestra, if designated by the instrumental coordinator); string majors must register for orchestra; and voice majors must register for chorus (or opera, if designated by the choral-vocal coordinator). A music major whose principal performance area is piano, organ or guitar shall be assigned to an appropriate performance group by his faculty adviser. Exceptions to this requirement must be directed by petition to the department chair (see also 6d below).
6. The principal performance area for the major in music requires work in applied music, as follows:
   a. Music majors (except those covered in 6b below) must complete a minimum of six semesters (eight semesters for the Bachelor of Music) of applied music in the principal performance area.
   b. A student pursuing the Bachelor of Music (Composition) or the Bachelor of Arts (Music History and Theory) may reach the 300 level in applied music before using all of the units designated in his degree requirements for that purpose. If the 300 level is reached before the required units in applied music (principal performance area) are expended, the remainder of these units may be used as music major electives. A music history and theory major may elect additional units in applied music only upon the recommendation of his adviser and the coordinator in his area of performance, and with the approval of the coordinator of applied music. The composition major must also complete six units of composition beyond Mu 422A culminating in the successful presentation of a senior recital of his own compositions.
   c. A student pursing the Bachelor of Music (instrumental, keyboard, voice or accompanying specializations) must achieve the 300 level of performance proficiency before giving the junior recital, and must achieve the 400 level before giving the senior recital, and may not receive double lessons (two units) for more than three semesters at any given jury level. Specific information about jury level criteria is available in the Music Department Office.
   d. In order to receive state-funded lessons in applied music, an undergraduate student must be enrolled for a minimum of six units, two of which must be in an academic area of music (any courses other than performing ensembles and applied music), and must be making satisfactory progress toward a degree. If courses are dropped during the semester reducing his enrollment below the six-unit minimum, state-funded lessons will be withheld in a subsequent semester of enrollment. In order to receive state-funded lessons, the student also must be enrolled in an approved major performance ensemble or be excused from that requirement by means of a petition signed by the department chair.
7. Senior transfer students entering Cal State Fullerton with a major in music, or graduate students in music entering to complete credential requirements are expected to complete a minimum of one semester of successful upper division work in music before they may be approved for admittance to teacher education. Required courses and competencies must be satisfied before endorsement by the faculty committee for acceptance in the credential program.
8. All credential candidates are required to pass functional examinations in piano and voice (in addition to the piano proficiency described in 2 above) before being approved for admittance to teacher education. This requirement may also be satisfied by successful completion of Mu 282B and 283.
9. A music major must maintain a 2.5 grade-point average in major field coursework at this institution in order to be approved for graduation.
10. All exceptions to departmental or curricular requirements should be directed by petition to the department chair.

MUSIC DEGREE PROGRAMS

The Department of Music offers a variety of courses and programs leading to baccalaureate and graduate degrees in teaching and the professions. The baccalaureate degree may be earned in either of two degree programs (Bachelor of Arts or Bachelor of Music). Within these patterns, a student will normally pursue an emphasis in music history and theory, music education, performance, composition, accompanying, or musical theatre.

103 8 7 435

BACHELOR OF ARTS IN MUSIC

The Bachelor of Arts in Music shall consist of no fewer than 50 units, of which at least 29 shall be in the upper division. All Bachelor of Arts students must complete the basic requirements in lower and upper division and in addition select and complete the requirements listed in one of two options: Music History-Theory Option or Music Education Option.

Basic Requirements for the Bachelor of Arts in Music

Lower Division	*Units*
Music theory (Mu 111A,B, 211)	9
Music literature (Mu 251)	3
Applied techniques (Ensemble 4, Principal Performance Area 4)	8
	20
Upper Division	
Music theory (Mu 320A, 321A)*	5
Music history (Mu 351A)	3
	8

Music History and Theory Option

This is designed as a balanced program in music history and theory and provides suitable preparation for advanced degrees in theory, literature or musicology and basic preparation for advanced study in other fields, such as musical acoustics, music therapy, ethnomusicology, library science in music, and music in industry and recreation.

	Units
Basic requirements for the Bachelor of Arts	28
Music theory (Mu 316, 321B or C)	4
Music history and literature (Mu 352A,B, 498, 499)	8
Conducting and composition (Mu 391A or 392A or 422A)	2
Ensemble (Mu 361)	2
Electives in music (conducting, history or theory)	6
	50

Allied requirements for Music History and Theory Option

1. An academic minor (20 units) with written approval of the history or theory coordinator.
2. Foreign language, preferably German, to be satisfied by one of the following:
   a. Four years study of foreign language at the secondary school level.
   b. Pass examination given by the Department of Foreign Languages and Literatures, or
   c. Completion of the second semester of the beginning university course in foreign language.

Music Education Option

This is designed to provide in-depth preparation for teaching in the California public schools under the provisions of the Teacher Preparation and Licensing Law of 1970 (Ryan Act).

Instrumental Emphasis:	*Units*
Basic requirements for the Bachelor of Arts	28
Music history (Mu 351B)	3
Orchestral instruments (Mu 281)	6
Music theory (Mu 323A and 320B or 323B)	4
Conducting (Mu 391A, 392A,B)	6
Ensemble (Mu 361)	3
	50

Vocal-Choral Emphasis:	*Units*
Basic requirement for the Bachelor of Arts	28
Music history (Mu 351B)	3
Diction for singers (Mu 390)	1
Orchestral instruments (Mu 281a,c,e,g)	4
Conducting (Mu 391A,B, 392A)	6
Literature and interpretation (Mu 453, 457)	4
Opera theatre (Mu 361d)	1
Ensemble (Mu 361)	3
	50

* In the Music History and Theory Option, Mu 320B or 321C may be substituted for MU 320A.

General Music Emphasis:	*Units*
Basic requirements for Bachelor of Arts	28
Music and child development (Mu 333)	3
Conducting (Mu 391A,B)	4
Orchestral instruments (Mu 281a,c,e,g)	4
Recreational instruments (Mu 381B)	1
Music in the classroom (Mu Ed 435)	3
Music history (Mu 351B)	3
Ensemble (Mu 361)	3
Electives in music	1
	50

TEACHING CREDENTIAL PREPARATION

Students desiring a California teaching credential in music must complete the following courses prior to enrolling in the professional education program as required by the School of Education.

	Units
Instrumental emphasis: Mu Ed 342B, Mu 353, 399	5
Choral-vocal emphasis: Mu Ed 342A, Mu 354, 399	5
General music emphasis: Mu Ed 342A, 441, 399	5

Students who wish to earn a teaching credential in addition to a Bachelor of Arts with a music education option must complete the following:

	Units
Mu Ed 442 (3)—professional education courses	9–12
Student teaching, full-time	12
	21–24

The following competency examinations must be passed prior to admission to teacher education:

Theory
Keyboard functional
Voice functional

Multiple Subject Instruction—Ryan Act

The following three courses are recommended for all students intending to teach in the elementary schools in multiple subject classrooms:

	Units
Art 380	3
Mu 333	3
Theatre 402	3
	9

The following additional list of courses would be strongly recommended for any student who wishes to expand his knowledge in the arts:

Art 100, 101, 103, 107A, 201A,B, 310A,B, and 380
Mu 100, 101, 111A,B, 184A,B, 251, 281A,C,E,G, 283A, 381B, Mu Ed 435
Theatre 100, 110, 112, 122, 132, 142, 152, 162, 163, 206A,B, 276A, 277, 316, 323, 370A,B, 402, 403 410C and 422

BACHELOR OF MUSIC

This degree program is designed to provide training for the highly gifted students who show promise and capability of becoming professional performers and composers.

This degree shall consist of no fewer than 70 semester units, of which at least 32 shall be in the upper division.

Basic Requirements for the Bachelor of Music	*Units*
Music theory (Mu 111A,B, 211)	9
Music history and literature (Mu 251, 351A)	6
Principal performance area (Mu 171)	2
Major performance ensemble	4
Senior recital (Mu 498)	1
	22

Composition Specialization	*Units*
Basic requirements for the Bachelor of Music	22
Music theory (Mu 316, 318, 320A,B, 321A and 321B or C, 323A, 422A)	17
Music history and literature (Mu 352A,B)	6
* Principal performance area	4
Applied composition	5
Major performance ensemble	4
Electives in music	12
	70

Instrumental Specialization	*Units*
Basic requirements for the Bachelor of Music	22
Music theory (Mu 316, 320A or B, 321A, 323A, 422A)	11
Music history and literature (351B or 352A,B)	3–6
Principal performance area	11
Major performance ensemble	4
Conducting (392A,B)	4
Chamber music	6
Electives in music	6–9
	70

Keyboard Specialization	*Units*
Basic requirements for the Bachelor of Music	22
Music theory (Mu 316, 320A or B, 321A, 422A)	9
Music history and literature (Mu 351B or 352A,B, 454A,B)	7–10
Principal performance area	11
Chamber music	3
Accompanying	1
Pedagogy (Mu 372 or 373, 467A,B)	5
Electives in music	9–12
	70

Voice Specialization	*Units*
Basic requirements for the Bachelor of Music	22
Music theory (Mu 316, 320A or B, 321A, 422A)	9
Music history and literature (Mu 351B or 352A,B, 456, 457A,B)	10–13
Principal performance area	11
Major performance ensemble (2 units minimum in Mu 361d)	4
Diction (Mu 390A,B,C)	3
Conducting	2
Pedagogy	2
Electives in music	4–7
	70

Allied requirement for voice specialization:
Two foreign languages, each to be satisfied by one of the following:
a. Four years study of foreign language at the secondary school level, or
b. A pass examination given by the Department of Foreign Languages and Literatures, or
c. Completion of the second semester of the beginning university course in foreign language.

Accompanying Specialization	*Units*
Basic requirements for the Bachelor of Music	22
Music theory (Mu 316, 318, 320A or B, 321A, 422A)	11
Music history and literature (Mu 351B or 352A,B, 455, 457A)	8–11
Principal performance area	9
Sight reading (Mu 385)	2
Accompanying (Mu 386)	2
Chamber music (Mu 363)	2
Harpsichord class (Mu 372)	1

* See 6b under Requirements of the Department of Music.

Conducting (Mu 391A)	2
Diction (Mu 390A,B,C,D)	4
Organ class (Mu 373)	1
Electives in music	3–6
	70

Musical Theatre Specialization	*Units*
* Basic requirements for the Bachelor of Music	22
Music theory (Mu 321A or 323A)	2–3
Music history and literature (Mu 351B, 456)	6
Principal performance area	5–6
Major performance ensemble/workshop	4
Diction (Mu 390D)	1
Conducting (Mu 391A or 392A)	2
Music/Theatre workshop (Theatre 436)	3
Music/Theatre history (Theatre 475E)	3
Theatre courses (163, 206A,B; 336A,B; 342)	14
Theatre and/or music electives to complete 70 units	6–8
	70

Minor in Music

The minor in music may be used as an appropriate area of study by persons whose majors are in other fields, or may be used to satisfy minor field requirements for elementary or secondary teaching credentials. A maximum of 12 units from the lower division may be included in work counted toward the music minor. The music minor requires a minimum preparation of 20 units.

Composite of Lower Division and Upper Division	*Units*
Theory of music (selected from Mu 101, 111A,B, 211 or any 300- or 400-level theory classes for which student is qualified)	6
Music history and literature (Mu 100, 251, 350 or courses at the 400- or 500-level for which student is qualified)	5–6
Applied techniques (selected from Mu 183, 184A,B, 281a–g, 283 or any course in ensemble, conducting, piano, voice and orchestral instruments at the 300 or 400 level for which student is qualified	8–9
	20

Note: Students expecting to use the minor for teaching must complete four units of Mu 281a–g and/or Mu 381B Orchestral Instruments, and a minimum of two units in an ensemble appropriate to their area of specialization.

MASTER OF MUSIC, MASTER OF ARTS

Two graduate degrees in music are offered in the Department of Music: the Master of Music and the Master of Arts. Each degree seeks to serve a special group of graduate students. For those students who intend to pursue advanced degrees beyond the master's level, the Master of Music normally leads to the D.M.A. degree, and the Master of Arts to the Ph.D. or the Ed.D.

ADMISSION TO GRADUATE STANDING: CONDITIONALLY CLASSIFIED

All applicants admitted into the music program enter initially in conditionally classified graduate standing. An applicant must meet the university and school requirements for admission in conditionally classified graduate standing with the declared objective of a graduate degree. These include: (a) possession of an acceptable baccalaureate degree from an institution accredited by a regional accrediting association; (b) attainment of a grade-point average of at least 2.5 (on a five-point scale) in the last 60 semester (90 quarter) units attempted; and (c) good standing at the last college attended. In addition, each music applicant must present a satisfactory entrance audition and submit an acceptable written essay in the area of specialization.

MASTER OF MUSIC

The Master of Music provides an avenue of graduate study for the highly creative composer or for the superior performer who wishes to enroll in a program tailored to each student's demonstrated talent and to each student's professional development. Applicants must have completed either a Bachelor of Music degree in performance or composition or show evidence of equivalent rigorous

* Student may receive 498 credit for a leading role in a major production upon approval of instructor and area coordinator.

training. For the entrance audition, applicants in performance must demonstrate proficiency equivalent to the 400 level, that level expected of a performance major in the Bachelor of Music program at the time of the senior recital, while composition applicants must submit a portfolio of scores for examination by the composition faculty. For admission to the programs in choral or instrumental conducting, applicants must show evidence of substantial conducting course work at the undergraduate level plus practical experience. The initial conducting course taken upon admission as a graduate student will constitute the entrance audition for the instrumental conducting concentration. The experience of each choral conducting applicant will also be assessed in the selection process. Further, to audition for entrance into the program, each applicant must be prepared to demonstrate his conducting proficiency with a mixed chorus. Under exceptional circumstances, a tape may be substituted for the live audition.

Study Plan

The Master of Music degree program requires a minimum of 30 units of graduate study in music, at least 15 of which must be in 500-level courses. The student must include Mu 500, Introduction to Graduate Study in Music, within the first nine units taken as a graduate student. At least one recital is required, in addition to a corollary written project.

MASTER OF ARTS

The Master of Arts provides advanced studies in breadth as well as in an area of specialization, either music education or music history and literature. The degree is especially designed for teachers and supervisors of music and individuals preparing for college teaching careers in music history or music education. For the entrance audition in history and literature, applicants must submit an example of a previously-written research paper on a musical subject, while applicants to the program in music education must submit a 30-minute tape demonstrating their teaching technique in a classroom situation.

Study Plan

The Master of Arts degree program requires 30 units of graduate study, no more than nine of which may be outside the field of music and at least 15 of which must be in 500-level courses in the major.

Two options are offered in this degree program. Option I in history and literature requires reading ability in a foreign language, preferably German or French, prior to advancement to candidacy. In addition, a thesis is required. The program must also include at least six units of study in a non-music field which is supportive of the major. Option II in music education requires either a thesis or a project, depending upon the nature of the student's graduate research. Nine semester units are common to both options (Mu 500, 2 units; Mu 361-363, 2 units; Mu 371-571, 2 units; and Mu 551-556, 3 units). Mu 500, Introduction to Graduate Study in Music, must be included within the first nine units taken as a graduate student under both options.

ADMISSION TO GRADUATE STANDING: CLASSIFIED

A graduate student may apply for transfer to classified graduate standing only upon attainment of the following prerequisites: (a) completion of all requirements for conditionally classified standing as described above; (b) a major in music (or the equivalent of a major; i.e., 29 upper division units in music) with a minimum grade-point average of 3.0 in the major; and (c) satisfactory completion of Mu 500. One objective of Mu 500 is the selection of a departmental advisory committee which aids the student in the preparation of a study plan listing all courses required for completion of the degree. This study plan must receive the approval of the student's Advisory Committee, the Music Department graduate program adviser and the dean of graduate studies. Opportunity is given the student to remove deficiencies by taking certain prescribed courses. Such courses cannot be applied to the master's degree program.

ADVANCEMENT TO CANDIDACY

A written comprehensive examination in music history and theory will be required of all students prior to advancement to candidacy. In addition, for Option I in history and literature only, the student must demonstrate reading ability in at least one foreign language, preferably German or French, prior to advancement to candidacy.

For further details or advisement, contact the chair, Department of Music, or Dr. Leo Kreter, graduate program adviser.

See also "The Program of Master's Degree" in this catalog and the *Graduate Bulletin.*

MUSIC COURSES

100 Introduction to Music (3)
A basic approach to musical enjoyment and understanding through a general survey of musical literature representative of various styles and performance media. Music will be related to other arts through lectures, recordings and concerts. Closed to music majors.

101 Music Theory for Non-Music Majors (3)
Basic theory and practical applications to further understanding of basic music principles and to improve music performance and listening skills. Includes sightsinging and relationship to keyboard and simple melodic instruments. Closed to music majors.

102 History of Jazz (3)
Historical study of jazz music in America, with emphasis on chronological development and stylistic evolution with consideration of peripheral trends. Emphasis on listening. Designed for the non-music major.

111A,B Diatonic Harmony (3,3)
A year course covering diatonic harmony and musicianship. Includes scales and intervals, triads and their inversions, harmonizations, nonharmonic tones, modulation and dominant seventh chords. Practical applications, to include sightsinging, dictation and keyboard harmonizations. (2 hours lecture, 2 hours activity)

171, 271, 371, 471 Individual Instruction (1–2)
Prerequisite: jury recommendation. Individual study with approved instructor with emphasis on technique and repertoire. Music majors must register for a minimum of one unit per semester. Performance majors approved by jury recommendation should register for two units per semester. Jury examination required. May be repeated for credit.

172 Piano Class for Piano Majors (1)
Prerequisite: placement by coordinator. Group instruction in basic pianistic technique and repertoire. May be repeated for credit. (2 hours activity)

182A,B Piano Class for Music Majors (1,1)
Fundamentals of keyboard technique for students whose major performance instrument is not piano. (2 hours activity)

183 Voice Class for Non-majors (1)
Beginning and elementary techniques in singing for the non-music major. May be repeated for credit. (2 hours activity)

184A Piano Class for Non-Majors (1)
Prerequisite: Mu 101. Beginning and elementary instruction in basic piano techniques for the non-music major. (2 hours activity)

196 Student-to-Student Tutorials (1–3)
Prerequisites: A 3.0 or higher grade-point average and/or consent of instructor and simultaneous enrollment in the course or previous enrollment in a similar course or its equivalent. Consult "University Curricula" in this catalog for more complete course description.

211 Chromatic Harmony (3)
Prerequisite: Mu 111B. Continuation of Mu 111A,B with emphasis on the chromatic practice of the 19th century. Includes secondary dominants; ninth, eleventh and thirteenth chords; sequence, and chromatically altered chords. Practical applications to include sightsinging, melodic and harmonic dictation, and keyboard practice. Required of all music majors. (2 hours lecture, 2 hours activity)

251 Survey of Musical Literature (3)
An introductory course required of majors in the study of the literature of music in Western civilization. Open to minors and qualified students by consent of instructor. Students should be able to read music as a part of the analysis of form, design and style. (3 hours lecture)

267 Observation in Applied Music (1)
Prerequisites: piano major, sophomore standing. Observation of specialists in private music teaching, teaching techniques, materials, development of student and preparation for beginners, adult beginners, intermediate and early advanced students under the specialist in these areas. Requires written reports of activity in these areas.

281a–g Orchestral Instruments (1)
Mu 281a,c,e, and g are required of all music credential candidates. Instrumental music candidates are required to take two additional units selected from Mu 281b, d, or f. (2 hours activity)

120 8 7 520

281a String Instruments (1)
Specialization on violin and viola. Violin and viola majors substitute Mu 281b for this course.

281b String Instruments (1)
Specialization on cello and string bass. Cello and bass majors are exempt.

281c Brass Instruments (1)
Specialization on trumpet and French horn. Trumpet and French horn majors substitute 281d for this course.

281d Brass Instruments (1)
Specialization on trombone, baritone and tuba. Trombone and tuba majors are exempt.

281e Woodwind Instruments (1)
Specialization on clarinet and flute. Secondary emphasis on saxophone. Clarinet and flute majors substitute 281f for this course.

281f Woodwind Instruments (1)
Specialization on oboe and bassoon. Oboe and bassoon majors are exempt.

281g Percussion Instruments (1)
Specialization on the snare drum and mallet-played instruments with related work on other standard percussion instruments. Special consideration given to typical problems encountered with percussion in the public schools. Percussion majors are exempt.

282A,B Piano Class for Music Majors (1,1)
Prerequisite: Mu 182B or placement by instructor. Designed to meet music major minimum piano proficiency requirements for degree. Fundamentals of keyboard technique for students whose major performance field is not piano. Not required for keyboard majors. (2 hours activity)

283 Voice Class (1)
Prerequisite: placement by coordinator. Recommended for credential candidates. Not required for voice majors. (2 hours activity)

299I Clinical Practice in Instrumental Techniques (1)
Clinical practice and field applications of instrumental techniques classes, as in public and private schools. Co-enrollment in Mu 281 recommended. (3 hours weekly TBA in nearby school)

299V Clinical Practice in Choral Techniques (1)
Clinical practice and field applications of choral techniques classes, as in public and private schools. Co-enrollment in Mu 391A recommended. (3 hours weekly TBA in nearby school)

300 Music of Today (3)
Prerequisite: Mu 100 or 101, or consent of instructor. Concentration on the musical trends of the last two decades. The emphasis will be on western art music, but recent developments in jazz, rock and folk idioms will also be discussed.

311 Advanced Harmony Skills (1)
Prerequisites: Mu 211, audition and consent of instructor. Continuation of the laboratory work of Mu 211. For the advanced student. Emphasis on ear training with exercises in singing and/or keyboard.

316 16th-Century Counterpoint (2)
Prerequisite: Mu 211 or consent of instructor. Sixteenth-century counterpoint in two, three and four parts, covering motet, canon, double counterpoint.

318 18th-Century Counterpoint (2)
Prerequisite: Mu 316 or consent of instructor. Eighteenth-century counterpoint in two, three and four parts, covering invention, canon, double and triple counterpoint and fugue.

320A,B 20th-Century Techniques (2,2)
Prerequisite: Mu 211. A survey of the compositional practices of the 20th century with emphasis on written examples in the various styles. Practical applications to include sightsinging, keyboard practice and dictation. **A**—Compositional techniques from 1890 to 1945. **B**—Compositional techniques since 1945, to include limited experience with the synthesis of sound. (1 hour lecture, 2 hours activity)

321A,B,C Form and Analysis (3,2,2)
Prerequisite: Mu 211 or consent of instructor. **A**—Analysis of structural elements of music such as motive phrase and period; binary, tenary, rondo, sonato allegro and larger musical forms in representative musical works. Required of all music majors. **B**—Continuation of A, with emphasis on larger musical works. **C**—Continuation of A and B with emphasis on literature of the 20th century.

323A,B Orchestration (2,2)
Prerequisite: Mu 320, 321A or consent of instructor. Writing and analysis of orchestral music.

333 Music and Child Development (3)
Prerequisite: Mu 101 or equivalent or successful completion of proficiency test. Study of the relationship of music to child growth and development, for the child from 5 to 12. Teaching-learning strategies are emphasized. Field work is conducted in a neighboring public school.

350 Music in Our Society (3)
Prerequisite: Mu 100 or consent of instructor. Designed to increase interest and an understanding of music in its relation to our general culture. A sociological approach which includes musical criticism and journalism, concert life, audience psychology and the political/religious/business aspects of the American musical scene.

351A,B History and Literature of Music (3,3)
Prerequisite: Mu 211 and 251 or consent of instructor. **A**—A study of the history and literature of music from early Greek beginnings through the Renaissance. **B**—A study of the history and literature of music covering the baroque, classic, romantic period and the 20th century. Required of all music majors.

352A,B History and Literature of Music from 1600 to the Present (3,3)
Prerequisite: Mu 211 and 251, or consent of instructor. **A**—Historical and stylistic study in the baroque and classic periods. **B**—Historical and stylistic study in the romantic period and 20th century. May be used to replace 351B. If used to fulfill music history requirements, both A and B sections of Mu 352 must be completed. This course is recommended to all music majors who intend to continue music study at the graduate level.

353 Survey of Instrumental Music Materials (2)
Prerequisite: Mu 392A. Through examination and analysis of multiple examples of the repertory, this course is designed to develop skills in the practical use of instrumental literature for performance in secondary schools and community colleges.

354 Survey of Public School Choral Music Materials (2)
Prerequisite: Mu 391A. Examination and analysis of multiple examples of choral repertoire suitable for junior and senior high choruses.

361a–h Major Performance Ensemble (1)
The study and performance of standard and contemporary music literature. Public concerts on campus and in the community are included in the scheduled activities each semester and participation is required. A concert tour may be included by some groups. (More than 3 hours major production) May be repeated for credit.

361a Symphony Orchestra (1)
Open to all university students and qualified adults in the community by audition or consent of instructor.

361b University Choir (1)
Open to all university students with consent of instructor.

361c University Concert Band (1)
Open to all university students with consent of instructor.

361d Opera Theatre (1)
Study of roles and representative excerpts from standards and contemporary operas and the basic musical, dramatic and language techniques of the musical theatre. Performance of operatic excerpts and complete operas. Open to non-vocal majors in production or accompanying.

361e University Singers (1)
Membership restricted to advanced voice students or those accepted by audition.

361f University Wind Ensemble (1)
Membership restricted to advanced wind and percussion students accepted by audition.

361g University Chorale (1)
Open to upper division and graduate student with consent of instructor. Audition necessary.

361h Symphonic Band (1)
Open to all university students by audition or consent of instructor.

362A Wind Ensemble—Jazz Ensemble (1)
Open to qualified students by audition or consent of instructor. Public performances on campus and in the community are scheduled each semester.

362B Wind Ensemble—University Band (1)
Open to all university students with consent of instructor. University Band provides music for Titan football and basketball home games.

362C Vocal Ensemble (1)
Study and performance of choral literature of the Renaissance and baroque periods. Open only to students by audition. Public performance required. (2 hours activity)

362D Percussion Ensemble (1)
Study and performance of music written for the Percussion Ensemble. Open to any qualified student with consent of instructor. (2 hours activity)

362E Brass Ensemble (1)
The study and performance of music written for large brass choir/ensemble. Open to any qualified student with consent of instructor. May be repeated for credit. (2 hours activity)

362G String Ensemble (1)
Study and performance of string orchestra literature covering all periods of musical style. Open to students by audition or consent of instructor.

362H Chamber Orchestra (1)
Prerequisite: consent of instructor. Study and performance of representative chamber orchestra literature. Open to university students and qualified adults in the community.

362K Keyboard Workshop (1)
Weekly workshop performances by students, faculty and guests. Open to all students.

362L Jazz Laboratory (2)
Prerequisite: ability to read music. A study in the commercial as well as artistic aspects of composing, arranging and improvisation. Included in the course are melodizing harmony, the 32 bar song, composing and recording jingles, and the mechanics of jazz improvisation.

362V Vocal Workshop (1)
Application of vocal technique to performance practices through lecture—demonstrations, master classes and ancillary recitals.

363b–x Chamber Music Ensembles (1)
Open to all qualified wind, string or keyboard students. Ensembles will study, read and perform representative chamber literature of all periods. (2 hours activity)

363b Brass
363g Guitar
363k Keyboard
363r Renaissance
363s Strings
363w Woodwind
363x Saxophone

367 Pedagogy Internship (1)
Prerequisites: Mu 267 and 467A. Supervised internship in private piano teaching.

372 Harpsichord Class for Music Majors (1)
Prerequisite: 300-jury level in piano or organ or consent of instructor. The study of the harpsichord as an instrument, the application of baroque stylistic characteristics, and training in the rudiments of continuo playing in ensemble with voices and instruments. (2 hours activity)

373 Organ Class for Music Majors (1)
Prerequisite: 300-jury level in piano. The study of the organ as an instrument, the playing techniques, and repertoire. Instruction will include the differences between piano and organ techniques. (2 hours activity)

374 Keyboard Improvisation (2)
Prerequisite: 200 level in keyboard applied music or consent of instructor. Emphasis on development of ability to modulate, transpose, read scores, and improvise at a moderately advanced level.

381B Survey of Recreational Instruments (1)
A general survey of recreational instrument practices for credential candidates. (2 hours activity)

385 Keyboard Sight-reading (2)
Prerequisite: 200-jury level in piano or organ or consent of instructor. Analysis of sightreading skills and procedures. Emphasis on development of ability to read solo, ensemble and scores without hesitation at first sight. (4 hours activity)

386 Piano Accompanying (1)
Prerequisite: by audition only. The study and performance of piano accompaniments for instrumentalists, vocalists and ensembles. Participation in rehearsals, recitals and concerts required. (2 hours activity)

390A,B,C,D Diction for Singers (1,1,1,1)
Prerequisite: sophomore standing or consent of instructor. Study of proper singing diction; may not be considered a substitute for formal language study. Examples from standard vocal literature explained through the use of the International Phonetic Alphabet. **A**—Italian. **B**—German. **C**—French. **D**—English.

391A,B Choral Conducting (2,2)
Prerequisite: one semester of voice class or consent of instructor. **A**—Principles, techniques and methods of conducting choral groups. Required of all music education majors. (4 hours activity) **B**—Continuation of 391A including laboratory work with class and vocal ensembles, using standard choral repertoire. (4 hours activity)

392A,B Instrumental Conducting (2,2)
Prerequisite: two courses from 281a–g or consent of instructor. **A**—Principles, techniques and methods of conducting orchestral and band groups. Required of all music education majors. (4 hours activity) **B**—Continuation of 392A, including laboratory experience in conducting instrumental groups, using standard instrumental literature. (4 hours activity)

393 Music Instrument Care and Repair (2)
Study of the care and repair of band and orchestra instruments. Practical experience in the preventative maintenance of music instruments, and basic repairs which require a minimal amount of equipment, skill and time.

396 Internship: Professional Experience (1–3)
Fieldwork experience in music under supervision of resident faculty and professionals in the field. Requires minimum six hours fieldwork per week for each unit credit. May be repeated for credit to a maximum of six units. Open to all music students by consent of instructor.

399I Clinical Practice in Instrumental Conducting (1)
Prerequisite: Mu 299I. Clinical practice and field applications of concepts, materials and procedures as applied to field situations, as in public and private schools. Co-enrollment in Mu Ed 342B.

399V Clinical Practice in Choral Conducting (1)
Prerequisite: Mu 299V. Clinical practice and field applications of concepts, materials and procedures as applied to field situations, as in public and private schools. Co-enrollment in Mu Ed 342A.

400 Concert Music (1)
Weekly performances by university students, faculty and performing organizations, with lectures and discussions relative to the performing arts. Attendance required at additional concerts during the semester. Open to all students. May be repeated for credit.

401 Criticism of the Arts (3)
Prerequisite: senior or graduate standing in the School of the Arts or consent of instructor. Development of criteria and vocabulary for criticism of the visual and performing arts through lectures, readings, discussions, and exhibit and performance attendance. Emphasis on descriptive and evaluative skills in music, art, theatre, dance and cinema criticism.

422A,B Composition (2,2)
Prerequisites: Mu 316, 320 and 321A or consent of instructor. **A**—Ear-training analysis of smaller forms, simple composition of two- and three-part song form styles. **B**—Analysis and writing of more complex musical forms.

433 Music in Early Childhood (3)
Prerequisite: ability to read and perform simple songs and games for young children. Songs, games, creative activities and materials suitable for young children in nursery school and early childhood education (approximately 3–6 years). Class stresses teaching-learning strategies. Field work is conducted in a neighboring public school.

451 Composer Survey (1)
An examination of the life, times and compositions of a selected composer. Completion of all lower division theory courses required for enrollment. May be repeated for credit with different content.

452 Symphonic Literature (3)
Prerequisite: Music 320A and 351A,B or consent of instructor. Historical survey of the symphony from Baroque antecedents through contemporary examples. (3 hours lecture)

453A,B Choral Literature and Interpretation (2,2)
Prerequisites: MU 391A or equivalent and 351A,B. **A**—The study of choral literature from the medieval, renaissance and baroque eras analyzed in historical perspective. Appropriate performance practices will be examined. **B**—Continuation of A with representative examples from the classic, romantic and contemporary eras.

454A,B Piano Literature and Interpretation (2,2)
Prerequisite: 351A,B and junior level piano standing or consent of instructor. Study and performance of representative styles and schools of piano literature, with particular reference to solo and ensemble repertoire. **A**—Concentration on contrapuntal forms, sonatas and variations. **B**—Concentration on concerti, character pieces, fantasies, suites and etudes.

455 Instrumental Chamber Literature and Interpretation (3)
Open to all music majors, or to non-majors by consent of instructor. Members of the class will be grouped into ensembles for demonstration purposes. Emphasis on the stylistic differences required in performing works of all periods.

456 Opera Literature and Interpretation (3)
Prerequisite: Mu 351A,B or consent of instructor. Study of all periods and nationalities, including stylistic and historical connotations.

457A Song Literature and Interpretation (2)
Prerequisite: Mu 390B or consent of instructor. Study and performance of German Lieder with representative examples of periods and styles.

457B Song Literature and Interpretation (2)
Prerequisite: Mu 390C or consent of instructor. Study and performance of French art songs with representative examples of periods and styles.

458 Collegium Musicum Practicum (2)
Prerequisite: Mu 351A,B or consent of instructor. The study and performance of rare and old music, both instrumental and vocal. Techniques of musical research will be applied. Students should be competent performers.

459 Guitar Literature, Interpretation and Pedagogy (3)
Prerequisite: 300-jury level in guitar or consent of instructor. A survey of the literature available to guitarists. Includes works for lute, vihuela and baroque guitar as well as the compositions and transcriptions for the modern guitar. An introduction to materials and methods essential for the guitar instructor.

460 Interpretation of Early Music (3)
Prerequisite: 300-jury level in principal performance area. A survey of the various stylistic interpretations of vocal and instrumental literature from the 16th, 17th and 18th centuries. Designed for the senior or graduate student majoring in performance. (2 hours lecture, 2 hours activity)

467A,B,C Piano Pedagogy (2,2,1)
Prerequisite: junior piano standing or consent of instructor. Fundamentals of piano pedagogy, with reference to individual and group instruction. **A**—Survey of materials and methods for beginning and elementary students. Supervised teaching. **B**—Survey of materials and methods of intermediate and early advanced students. Physiology and psychology for studio teachers. Supervised teaching. **C**—Prerequisite: 467A or consent of instructor. Observation and practice teaching while learning organizational procedures, teaching techniques and course literature for class piano.

468A,B Vocal Pedagogy (2,2)
Prerequisite: senior standing or consent of instructor. **A**—Fundamentals of vocal pedagogy with reference to studio and public school teaching, with consideration of physiology and acoustics as they apply to singing. **B**—Practical application of the fundamentals discussed in A. The student will participate in seminar discussions and be observed in an actual studio teaching situation. Emphasis will be on the diagnosis and cure of specific vocal problems.

496 Student-to-Student Tutorials (1–3)
Prerequisites: A 3.0 or more grade point average and/or consent of instructor and simultaneous enrollment in the course or previous enrollment in a similar course or its equivalent. Consult "University Curricula" in this catalog for more complete course description.

497 Senior Project (1)
Intensive independent investigation of an area of special interest in music culminating in a public performance, lecture, lecture-recital or other suitable demonstration.

498 Senior Recital (1)
Prerequisites: 371-level (471-level for performance majors) and consent of instructor. Intensive preparation and presentation of representative works in the principal performance area.

499 Independent Study (1–3)
Study of a special topic in music selected in consultation with the instructor and carried out under his supervision. May be repeated for credit.

500 Introduction to Graduate Study in Music (2)
Required of all graduate music majors. Study of basic bibliography, literature, and research techniques and materials useful in graduate music study.

524 Seminar in Music Theory (2)
Deals with a variety of theoretical subjects (form/style analysis, history of music theory, etc.) to be chosen by instructor. May be repeated for credit.

551 Seminar in Music of the Medieval Period (3)
Prerequisite: consent of instructor. A detailed study of the music forms, structures and styles from 500 to 1450. Detailed analysis of important representative works as well as the contributions of individual composers and theoretical writers.

552 Seminar in Music of the Renaissance (3)
Prerequisite: consent of instructor. A comprehensive study of the forms, styles, and development characteristics of music between 1450 and 1600. Detailed analysis of selected works by representative composers and theoretical writers.

553 Seminar in Music of the Baroque Period (3)
Prerequisite: Mu 351A,B or consent of instructor. Musical forms, styles, and performance practices of the baroque period. Detailed analysis of significant representative works.

554 Seminar in Music of the Classic Period (3)
Prerequisite: Mu 351A,B or consent of instructor. A study of the history and literature of music from approximately 1750 to 1825. Detailed analysis of important representative works.

555 Seminar in Music of the Romantic Period (3)
Prerequisite: consent of instructor. An intensive study of the structure and development of music in the 19th century. Detailed analysis of important representative works.

556 Seminar in 20th-Century Music (3)
Prerequisite: Mu 351A,B or consent of instructor. Developments in the music of western Europe and the western hemisphere since 1890. Intensive study of contemporary music and its structure.

558 Collegium Musicum (2)
Prerequisite: consent of instructor. Advanced studies in the performance of rare and old music. (See Mu 458 for general description.) May be repeated for credit.

559 Composer Studies (2)
An examination of the life, times and musical style of a selected composer. A seminar for graduate students in music, conducted through lectures, discussion sessions and analytical projects. Open to seniors in music by consent of instructor. May be repeated for credit with different content.

571 Individual Instruction (1–2)
Prerequisite: jury recommendation. Individual instruction with approved instructor with emphasis on performance techniques and repertory. Required of all graduate students whose terminal project is the graduate recital. May be repeated for credit.

591 Seminar in Advanced Choral Conducting and Interpretation (2)
Prerequisite: Mu 391B, conducting experience or consent of instructor. Advanced problems in choral conducting techniques, with emphasis on laboratory work with student groups and in concert conducting.

592 Seminar in Advanced Instrumental Conducting and Interpretation (2)
Prerequisites: Mu 392B, keyboard facility for score reading and consent of instructor. Advanced study of conducting techniques. Interpretive problems of each period covered in lectures.

597 Project (1–3)
Systematic study and report of a significant undertaking in the area of musical composition, musical performance, or other related creative activity. A written critical evaluation of the work or activity will be required.

598 Thesis (3)
Individual investigations of specific problems in the area of concentration by candidates for the M.A. degree.

599 Independent Graduate Research (1–3)
Prerequisites: graduate standing in music and consent of instructor. Research and study projects in areas of specialization beyond regularly offered coursework. Oral and written reports required.

MUSIC EDUCATION COURSES

342A,B Practicum in School Materials and Techniques (2,2)
For the music education major. Experience in the use of musical materials, conducting, organization and management. Observation and application of rehearsal and classroom techniques conducted in nearby school. Must be taken concurrently with Mu 399. **A**—Choral. Prerequisite: Mu 391A,B. **B**—Instrumental. Prerequisite: Mu 392A,B.

435 Music in the Modern Classroom (3)
Prerequisite: Mu 333 or consent of instructor. A survey of 20th-century materials and techniques of recordings for creative movement to music, and of choral materials and techniques appropriate for the elementary school choir. Adaptation of materials for use in classroom music.

441 Teaching General Music in Secondary Schools (2)
Prerequisite: admission to teacher education, senior standing or consent of instructor. Objectives, methods and materials for teaching general music or allied art-humanities classes in secondary schools, including their relationship to specialized instrumental and choral programs. Practical problems and field work applications are included.

442 Principles and Methods of Teaching Music in the Public Schools (3)
Prerequisite: admission to teacher education. History, principles of public education, grades K–12, with special emphasis on music. Philosophy, methods, materials and procedures for organizing and teaching music in elementary and secondary schools. Must be taken concurrently with Ed-TE 440F and 440S.

444 Administration, Materials for the Marching Band (2)
Prerequisite: consent of instructor. A study of techniques, materials, administration for marching band. Includes charting for the football field and parade activities, with particular emphasis on the needs of school bands.

449A Student Teaching in Music in the Secondary School (10)
For candidates who have declared for the Ryan Act credential. See description and prerequisite under Division of Teacher Education.

449B Student Teaching Seminar (2)
Must be taken concurrently with MuEd 449A. For candidates who have declared for the Ryan Act credential. See description and prerequisites under Division of Teacher Education.

530 Practicum of Research in Music Education (2)
Prerequisites: graduate standing in music and completion of Mu 500. Research techniques and procedures in music education. Students will conduct applied research and will be expected to complete a research paper.

531 Foundations of Music Education (2)
Prerequisite: Mu 500. Study of philosophical and historical bases which have influenced music education. Identification of philosophic frames of leading educators. Contemporary trends which affect the teaching of music in the schools. Prerequisite for all graduate music education courses.

532 Seminar in Music Education (2)
Studies in the trends and application of educational theory in relation to the teaching of music in the public schools.

544 Curriculum Planning and Construction in Music (2)
Principles and practices of curriculum planning in music education, with special reference to the public elementary, junior and senior high school. Required of majors who intend to complete supervision credential.

545 Leadership in Music Education (2)
Open to music education majors with teaching experience. Philosophy, principles and practices of leadership in music in the public elementary and secondary schools. Emphasis on modern principles of leadership, types of services, organization, management and evaluation of programs of instruction. Required for all graduate students specializing in supervisory-leadership roles in music education.

141 8 7 625

DEPARTMENT OF THEATRE

FACULTY
Alvin Keller
Department Chair

Joseph Arnold, Mitchell Block, Blaine Chambers, Phillip Cleveland, Ronald Dieb, Lynn Hachten, Susan Hallman, Donald Henry,* Dean Hess, Gretchen Kanne, Araminta Little, Michael McPherson, R. Kirk Mee, Sallie Mitchell, S. Todd Muffatti, Dwight Richard Odle, Jerry Pickering, Robert Rence, Lee Scanlon, Marguerite Vander Hoek, Ron Wood, James Young,* Sylvia Zastrow, Allen Zeltzer*

The Department of Theatre program includes the several fields of playwriting, oral interpretation, acting-directing, technical theatre, theatre history and theory, radio-television-film and dance. Specifically, the coursework is arranged to provide opportunities for students (1) to develop an appreciation for the theatre; (2) to become aware, as audience or participants of the shaping force of the theatre in society; (3) to improve the understandings and skills necessary for work in the theatre as a profession; (4) to prepare for teaching theatre; and (5) to pursue graduate studies.

To qualify for a baccalaureate degree with a major in theatre, students must have a C or better in all courses required for the degree. No credit toward the major will be allowed for specific major courses in which a grade of D is obtained. In addition to course requirement, all students will enroll for two units of Theatre 478B each semester.

BACHELOR OF ARTS IN THEATRE ARTS

Course programs have been planned to meet the individual needs and interests of students working for the Bachelor of Arts in Theatre Arts.

Plan I is for those who wish to study theatre as a cultural contribution or who wish to pursue graduate degrees in theatre with emphasis in theatre history and theory. It is strongly recommended that students electing this plan support the major with approved electives from art, music, foreign languages, literature, philosophy or speech.

Plan II is designed to develop the necessary competency for pursuing theatre as a profession, or for pursuing graduate degrees in theatre with an emphasis in an area of concentration other than history of the theatre. Areas of concentration are: playwriting; acting; directing; oral interpretation; radio-television-film; technical theatre; and dance.

Plan III meets the requirements of the teaching credential with specialization in secondary teaching.

In addition to the requirements listed below for the major, students must meet the other university requirements for a bachelor of arts degree. Students following Plan III also must meet any specific requirements for the desired teaching credential. See description of secondary school teaching credential program under Division of Teacher Education. In addition, Plan III students should see the department's secondary education adviser regarding course sequence required for the single subject waiver. Those students who plan to work on the M.A. degree as well as the credential should see the chair of the Department of Theatre.

PLAN I: THEATRE HISTORY AND THEORY EMPHASIS *Units*

Lower Division: Theatre 110, Introduction to Oral Interpretation (3), Theatre 200, Art of the Theatre (3); Theatre 263, Acting (3); Theatre 276A,B, Beginning Stagecraft (6); Theatre 277, Costume Fundamentals (3) or Theatre 285, Theatrical Makeup (3) 18

Upper Division: Theatre 370A, Fundamentals of Directing (3); Theatre 472, American Theatre (3); Theatre 475A,B,C,D,E, World Theatre (15); Theatre 477A,B, Senior Seminar in Critical Techniques (3,3); electives (3 units) 30

PLAN II: PROFESSIONAL EMPHASIS IN AN AREA OF CONCENTRATION *Units*

Playwriting—

Lower Division: Theatre 110, Introduction to Oral Interpretation (3); Theatre 200, Art of the Theatre (3); Theatre 263, Acting (3); Theatre 276A,B, Beginning Stagecraft (6); Theatre 277, Costume Fundamentals (3) or Theatre 285, Theatrical Makeup (3) 18

Upper Division: Theatre 364, Seminar in Playwriting (3,3), or Theatre 364 (3) and Theatre 365, Television/Film Writing (3); Theatre 370A,B, Fundamentals of Di-

* University administrative officer

recting (6); Theatre 468, Experimental Theatre (3); Theatre 472, American Theatre (3); Theatre 475A,B,C,D, World Theatre (12); Theatre 477A,B, Senior Seminar in Critical Techniques (6) 36

Oral Interpretation—

Lower Division: Theatre 110, Introduction to Oral Interpretation (3); Theatre 200, Art of the Theatre (3); Theatre 210, Advanced Oral Interpretation (3); Theatre 263, Acting (3); Theatre 276A,B, Beginning Stagecraft (6); Theatre 277, Costume Fundamentals (3) or Theatre 285, Theatrical Makeup (3) 21

Upper Division: Theatre 310, Oral Interpretation of Shakespeare (3); Theatre 370A, Fundamentals of Directing (3); Theatre 410A,B,C, Oral Interpretation of Prose, Poetry and Drama (9); Theatre 414, Readers Theatre (3); Theatre 475A,B,C,D, World Theatre (12) 30

Acting—

Lower Division: Theatre 110, Introduction to Oral Interpretation (3); Theatre 200, Art of the Theatre (3); Theatre 241, Voice Production for the Performer (3); Theatre 251, Body Movement for the Actor (3); Theatre 263, Acting (3); Theatre 276A, Beginning Stagecraft (3); Theatre 277, Costume Fundamentals (3); Theatre 285, Theatrical Makeup (3) 24

Upper Division: Theatre 310, Oral Interpretation of Shakespeare (3); Theatre 363AB, Intermediate Acting (6); Theatre 370A, Fundamentals of Directing (3); Theatre 463A,B, Advanced Acting (6); Theatre 475AB,C,D, World Theatre (12); Theatre 482, Acting for Film and Television (3) 33

Radio/TV/Film—

Theatre Core: Theatre 200, Art of the Theatre (3); Theatre 263, Acting (3); Theatre 276A,B, Beginning Stagecraft (6); Theatre 365, Television/Film Writing (3); Theatre 370A, Fundamentals of Directing (3); Theatre 386, Beginning Lighting (3); *6 units selected from* Theatre 475 ABCDE, World Theatre 27

Radio-Television: Theatre 284, Introduction to Television Production (3); Theatre 371, Radio Production (3); Theatre 380, Introduction to Radio and Television (3); Theatre 381, Radio and Television Announcing (3); Theatre 384, Television Production and Direction (3); Theatre 484, Television Dramatic Techniques (3); Theatre 490, Television/Film Aesthetics and Criticism (3) 21

or

Film: Theatre 290A,B History and Aesthetics of Motion Pictures (6); Theatre 392A,B Dramatic Film Production (6); Theatre 490, Television/Film Aesthetics and Criticism (3); Theatre 492A,B, Advanced Dramatic Film Production (6) 21

Electives: 9 units selected from Theatre 110, Introduction to Oral Interpretation (3); Theatre 241, Voice Production for the Performer (3); Theatre 277, Costume Fundamentals (3); Theatre 285, Theatrical Makeup (3); Theatre 288, Design for the Theatre (3); Theatre 486, Advanced Lighting (3) 9

Directing—

Lower Division: Theatre 200, Art of the Theatre (3); Theatre 263, Acting (3); Theatre 276A,B, Beginning Stagecraft (6); Theatre 277, Costume Fundamentals (3); Theatre 284, Introduction to TV Production (3); Theatre 285, Theatrical Makeup (3) 21

Upper Division: Theatre 350, Organization for Production (1); Theatre 370A,B, Fundamentals of Directing (6); Theatre 384, Television Production and Direction (3); Theatre 386, Beginning Lighting (3); Theatre 450, Theatre Management (3); Theatre 470A,B, Advanced Directing (8); Theatre 475A,B,C,D, World Theatre (12) 36

Technical Production/Design—

Lower Division: Theatre 200, Art of the Theatre (3); Theatre 263, Acting (3); Theatre 276A,B, Beginning Stagecraft (6); Theatre 277, Costume Fundamentals (3); Theatre 285, Theatrical Makeup (3); Theatre 288, Design for the Theatre (3) .. 21

Upper Division: Theatre 350, Organization for Production (1); Theatre 370A, Fundamentals of Directing (3); Theatre 386, Beginning Lighting (3); Theatre 450, Theatre Management (3); Theatre 475A,B,C,D, World Theatre (12); *3 units selected from:* Theatre 377, Stage Costuming (3); Theatre 387, Audio Techniques (3); Theatre 378, Historical Styles (3) 25

Electives: 9 units selected from Theatre 284, Introduction to Television Production (3); Theatre 376, Advanced Stagecraft (3); Theatre 385, Advanced Theatre Makeup (3); Theatre 486, Advanced Lighting (3); Theatre 488, Advanced Design (3) .. 9

Dance—

Lower Division: Theatre 112, Beginning Classical Ballet (2); Theatre 122, Beginning Modern Dance (2); Theatre 126, Improvisation (3); Theatre 200, Art of the Theatre (3); Theatre 212, Intermediate Classical Ballet (2); Theatre 222, Intermediate Modern Dance (2); Theatre 226, Rhythmic Analysis (3); Theatre 277, Costume Fundamentals (3); Theatre 285, Theatrical Makeup (3); *3 units selected from* Theatre 132, Beginning Jazz Dance (2); Theatre 142, Beginning Tap Dance (2); Theatre 152, Ballroom Dance (1); Theatre 162, Beginning Folk Dance (1) 25

Upper division: Theatre 323, Dance Composition (3); Theatre 372, Dance Kinesiology (3); Theatre 374, Dance in Cultural Perspective (3); Theatre 386, Beginning Lighting (3); Theatre 393, Dance Theatre Production (3); Theatre 422, Advanced Modern Dance (3); Theatre 423, Advanced Dance Composition (3); *3 units selected from* Theatre 324, Dance Notation (3); Theatre 424, Direction of Dance Skills (3); Theatre 471, Creative Dance for Children (3); Theatre 474, Forces and Figures in 20th Century Dance (3); *6 units selected from* Theatre 387, Audio Techniques (3); Theatre 414, Readers Theatre (3), Theatre 450, Theatre Management (3); Theatre 486, Advanced Lighting (3) 30

PLAN III: TEACHING EMPHASIS (Single Subject) *Units*

Lower Division: Theatre 110, Introduction to Oral Interpretation (3); Theatre 200, Art of the Theatre (3); Theatre 263, Acting (3); Theatre 276A,B, Beginning Stagecraft (6) 15

Upper Division: Theatre 342, Simplified Technical Production (3); Theatre 370A,B, Fundamentals of Directing (6); Theatre 386, Beginning Lighting (3); Theatre 402A, Dramatic Activities for Children (3); Theatre 403A, Theatre for Children (3); Theatre 414, Readers Theatre (3); Theatre 450, Theatre Management (3); Theatre 470A, Advanced Directing (4); Theatre 475A,D,E, World Theatre (9) 37

MASTER OF ARTS IN THEATRE ARTS

The Master of Arts in Theatre Arts is designed to provide a program of coordinated graduate studies built on the framework of the undergraduate preparation; to provide added incentive for intellectual growth reflected in improvement in teaching and professional recognition; and to provide a sound basis for continued graduate study in the field of theatre. The student is expected to demonstrate a high degree of intellectual and creative competence and to demonstrate mastery of one of the areas of emphasis in theatre: (1) acting and directing, (2) dance, (3) dramatic literature and criticism, (4) oral interpretation, (5) playwriting, (6) radio and television, (7) theatre for children, (8) theatre history; (9) technical theatre.

Prerequisites

An applicant must meet the university requirements for admission in conditionally classified graduate standing: a baccalaureate degree from an accredited institution and a grade-point average of at least 2.5 in the last 60 semester units attempted (see section of this catalog on admission of graduates for complete statement and procedures).

A student who meets the requirements for conditionally classified graduate standing, as well as the following requirements, may be admitted as a classified graduate upon the development of an approved study plan: an appropriate undergraduate major in theatre, with a grade-point average of 3.0 in all upper division work in the major, or at least 24 units of appropriate upper division work in theatre, with a GPA of 3.0; Theatre 477A, Senior Seminar in Critical Techniques, or in the case of transfer students, its equivalent; and successful completion of two English proficiency examinations, one a standardized grammar and the second in composition. Upon recommendation of the student's graduate committee, additional prerequisites may be required prior to classification and the approval of the area of emphasis. Students will complete an oral interview as early as possible before becoming classified.

Study Plan

The degree study plan in theatre will include at least 30 units of adviser-approved graduate studies, 15 units of which must be 500-level courses. Each program will have 24 units in theatre, including a core of six units (Theatre 500, Introduction to Graduate Study—which must be taken in the first semester of graduate study; Theatre 597, Project, or Theatre 598, Thesis) and six units of adviser-

approved supporting courses in related fields, either in other departments or within the Theatre Department. Before the degree is granted each student will pass oral and written examinations. Students will be permitted to take the written examination twice.

For further information, consult the Department of Theatre. See also "The Program of Master's Degrees" in this catalog and the *Graduate Bulletin.*

MASTER OF FINE ARTS IN THEATRE ARTS

Technical Theatre and Design

The theatre department offers the Master of Fine Arts degree to those students who wish professionally oriented education and training in design/technical theatre. It is the objective of the department to educate and train highly skilled, motivated individuals for careers in professional theatre (including television and film) or for careers as artist-teachers in college or university theatre. Only those individuals who demonstrate an exceptional talent, a high degree of motivation, and a deep commitment to their education and training will be admitted into the program. The highest academic and creative standards will be demanded throughout the program. A positive attitude and a rigid sense of theatre discipline are essential for success in the program.

The Master of Fine Arts degree requires 60 units of approved coursework beyond the bachelor's degree. Average length of time to complete the program is two years.

Prerequisites

Prerequisites for admission to the Master of Fine Arts program (classified status) are:

1. B.A., B.F.A., or M.A. from an accredited college or university with a major in Theatre.
2. Completion of an oral interview and satisfactory review of the student's portfolio.
3. Acceptance by the faculty.
4. Minimum GPA of 3.0 in all upper division undergraduate work in theatre. A minimum GPA of 2.75 for the last half of the undergraduate program is also required.
5. Completion of any additional prerequisites which may be required by the student's individual committee prior to classification.
6. Selection of a graduate adviser and committee. Total committee membership should be three or four faculty members, including the adviser.
7. Submission of a formal M.F.A. study program approved by the individual committee, the department graduate adviser and the university dean of graduate studies.

Advancement to Candidacy

Completion of 30 units on the study program with a GPA minimum of 3.0 and an evaluation of the student's performance with a favorable recommendation.

M.F.A. Project

The M.F.A. program shall be culminated by a creative project which, by its nature, is of sufficient challenge and complexity to be accepted as a worthy completion to the two year period of study. The project, which shall be comparable to a professional undertaking, is determined by the individual committee and shall be a design assignment for a major production. The project shall be reviewed within two weeks after completion by the individual committee. If accepted, the student shall submit a written project book to the committee within a specified time.

Study Plan

Students should concentrate their activities in two of the following four technical theatre areas during their two year course of study: scene design, costume design-makeup, lighting-sound, and technical production.

Course Requirements*

Take all of the following:	*Units*
Theatre 401 Criticism of the Arts (3)	
Theatre 500 Introduction to Graduate Study (3)	
Theatre 550 Production Planning Seminar (3)	9
Take one of the following:	
Theatre 501 Seminar: Advanced Theatre Theory (3)	
Theatre 503 Seminar: Theatre for Children (3)	
Theatre 571 Seminar: Major Writers (3)	

* Based on a student's previous undergraduate or professional experience, substitutions or revisions in the study plan might be appropriate.

Theatre 572 Seminar: Literary Genres (3)	3
Take one of the following:	
Theatre 566 Seminar: Stagecraft (3)	
Theatre 577 Seminar: Costuming (3)	3
Take the following each semester:	
Theatre 588 Design and Technical Theatre Seminar (6)	24
Choose 15 units from the following:	
Theatre 376 Advanced Stagecraft (3)	
Theatre 377 Advanced Costuming (3)	
Theatre 384 TV Production and Direction (3)	
Theatre 385 Advanced Makeup (3)	
Theatre 387 Audio Techniques (3)	
Theatre 450 Theatre Management (3)	
Theatre 486 Advanced Lighting (3)	
Theatre 488 Advanced Design (3)	
Theatre 492AB Advanced Film Production (3/3)	15
Complete a creative project in two of above listed areas:	
Theatre 597 Project (3)	6
	60

THEATRE COURSES

100 Introduction to the Theatre (3)
A nontechnical survey course for the general student leading to an appreciation and understanding of the theatre as an entertainment medium and as an art form. Field trips to certain significant productions. Recommended for non-majors.

101 Introduction to Dance (3) (Formerly Dance 100)
Designed to develop an understanding of historical and contemporary dance forms. Illustrated with experiences in various dance forms such as ballet, modern, jazz, folk, Afro, mime. Recommended for non-majors.

102 After Dark Entertainment (3)
An introduction to the theatregoing experience. Attendance at stage plays, films and a wide variety of other theatrical productions both on and off campus, including discussions with directors, actors and designers. Recommended for non-majors.

110 Introduction to Oral Interpretation (3)
An introduction to the basic techniques for the analysis and performance of literature by the interpreter.

112 Beginning Classical Ballet (2) (Formerly Dance 112)
A study of the fundamental structure and technique of classical ballet. (6 hours activity)

122 Beginning Modern Dance (2) (Formerly Dance 122)
Basic movement experience for dance, drama, art, music as well as the general student. Development of proficiency in modern dance technique, and development of understanding and appreciation for modern dance as an art form. May be repeated for credit. (4 hours activity)

126 Improvisation (3) (Formerly Dance 126A,B)
Theory and practice of improvisation in movement. The student will be taught to overcome inhibitions, to move freely and naturally and to improvise imaginatively in movement. (6 hours activity)

132 Beginning Jazz Dance (2) (Formerly Dance 132)
Designed to introduce the student to the beginning technique of modern jazz dance and basic choreography. (4 hours activity)

142 Beginning Tap Dance (2) (Formerly Dance 142)
Fundamental structure and technique of tap dance. Designed to equip students with the technique of tap and tap choreography. (4 hours activity)

152 Ballroom Dance (1) (Formerly Dance 152)
Development of fundamental skills in ballroom dance with specific attention to basic steps and variations of dances in the major categories: fox-trot, waltz, swing, Latin-American and novelty dances. (2 hours activity)

162 Beginning Folk Dance (1) (Formerly Dance 162)
Designed to include both traditional and contemporary forms of folk dance. Dances of various countries are studied, with emphasis on the development of proficiency in folk dance skills and stylization. (2 hours activity)

163 Beginning Acting (3)
Laboratory practice and discussions of the form and content of acting. Improvisation, action, motivation, and behavior. Recommended for non-majors. May be repeated for credit. (6 hours activity)

180 Great Moments in Radio and TV (3)
Presentation and analysis of selected radio and television programs presented from 1926 to the present, including guest artists from the radio and television industry.

200 Art of the Theatre (3)
Introduction to theatre as an art form, involving the interrelated processes of playwriting, directing, acting, design and theatre management. Includes study of current plays, films and television with emphasis on dramatic analysis and cultural significance. Required of all theatre majors.

201 Dance and the Related Arts (3) (Formerly Dance 200)
The similarities and uniqueness of dance as an art form via experiences in various media in art, music, architecture, poetry, theatre and film. Includes field trips to galleries, museums, concerts and various environments.

203 Oral Interpretation of Children's Literature (3)
Oral presentation of children's literature in classroom, recreation and home situations, including individual and group performance of fiction, drama, and poetry.

206A,B Mime and Pantomime (3,3) (Formerly Dance 206A,B)
Prerequisite: Theatre 206A is prerequisite for 206B. Theory and practice of mime and pantomime for drama, dance and education (expression and gesture). Historical and contemporary knowledge and techniques with emphasis on individual development of creative skill in mime and pantomime. (6 hours activity)

210 Advanced Oral Interpretation (3)
The application of advanced techniques for the analysis and performance of literature. May be repeated for credit.

212 Intermediate Classical Ballet (2) (Formerly Dance 212)
Prerequisite: Theatre 112 or consent of instructor. A study of the intermediate level technique of classical ballet. (4 hours activity)

222 Intermediate Modern Dance (2) (Formerly Dance 222)
Prerequisite: Theatre 122 or consent of instructor. Development of intermediate level modern dance technique and movement vocabulary in terms of composition and communication. May be repeated for credit. (4 hours activity)

226 Rhythmic Analysis (3) (Formerly Dance 226)
Knowledge and understanding of musical form and structure; practice in musically notating dance rhythms and in percussion accompaniment for dance.

232 Intermediate Jazz Dance (2) (Formerly Dance 232)
Prerequisite: Theatre 132 or consent of instructor. The development of intermediate level skills in jazz technique and choreography. (4 hours activity)

241 Voice Production for the Performer (3)
Fundamental techniques, methods and training to give the actor maximum use of his voice in theatre. Correction of speech faults and regional accents. Introduction to problems of stage dialects. Study of basic interpretive material. May be repeated for credit. (6 hours activity)

242 Intermediate Tap Dance (2) (Formerly Dance 242)
Prerequisite: Theatre 142 or consent of instructor. Designed to equip students with intermediate skills in tap technique and tap choreography. (4 hours activity)

251 Body Movement for the Actor (3)
Fundamental work in developing the body as an expressive instrument; acquiring of strength, flexibility, relaxation, control. Establishment of an awareness of and coordination of relationship of the body to the creative project. May be repeated up to six units of credit. (6 hours activity)

262 Intermediate Folk Dance (1) (Formerly Dance 262)
Prerequisite: Theatre 162 or consent of instructor. An in-depth study of both traditional and contemporary forms of folk dance. Emphasis is on stylization and performance. (2 hours activity)

263 Acting (3)
Improvisations, exercises, and techniques of the stage. Studies in motivation and behavior leading to problems in characterization. May be repeated for credit.

276A,B Beginning Stagecraft (3,3)
Prerequisite: 276A is prerequisite to B. Study and practice in planning and construction of stage and television scenery including use of tools, stage equipment and reading of technical drawings. Students will also work in the scene shop for department productions. (More than 6 hours activity)

277 Costume Fundamentals (3)
Study of the principles and procedures of costuming theatrical and television productions. Practical experience in basic construction techniques, organizing and executing duties of the costume crew. Designed primarily for non-technical majors within the department and as an introductory course for technical majors. (More than 6 hours activity)

284 Introduction to Television Production (3)
Theory and practice in the fundamentals of production for television. (6 hours activity)

285 Theatrical Makeup (3)
Theory and practice in makeup for stage and television. Emphasis on development of individual skill in techniques of character analysis, application in pigment, plastic, hair makeup, and selection and use of makeup equipment. (6 hours activity)

288 Design for the Theatre (3)
Fundamental exposure to all aspects of scene design: aesthetics, practical considerations and technical skills, such as drawing and model building. (6 hours activity)

290A,B History and Aesthetics of Motion Pictures (3,3)
History and development of the motion picture as an art form and social influence. **A**—The motion picture from its origins until 1945. **B**—The contemporary cinema, from 1945 to present. (Same as Communications 290A,B)

310 Oral Interpretation of Shakespeare (3)
Development of techniques for interpretation of Shakespeare with special emphasis on the problems of verse. May be repeated for credit.

312 Advanced Classical Ballet (3) (Formerly Dance 312)
Prerequisite: Theatre 212, audition, or consent of instructor. Advanced study in the technique, stylization and performance of classical ballet. (6 hours activity)

316 Period Dance Forms (2)
Basic character dances such as Mazurka, Czardas, Friska, Polonaise, Fandango, Tarantella, along with the Court Dances such as Minuet and Galliard. Designed for students who aim to be professional performers or choreographers, as well as for actors and directors of theatre. (4 hours activity)

323 Dance Composition (3) (Formerly Dance 323)
Prerequisite: Theatre 122 or equivalent. Study of basic elements and forms of dance composition. (2 hours lecture, 2 hours activity)

324 Dance Notation (3) (Formerly Dance 324)
Theory and practice in recording dance movement and reconstructing notated choreography.

332 Advanced Jazz Dance (3) (Formerly Dance 332)
Prerequisite: Theatre 232 or consent of instructor. The development of advanced jazz techniques through grade three of professional jazz dance. The relation of jazz to other forms of dance. History of jazz dance. Choreography of jazz dance. (6 hours activity)

336A,B Dance for Musical Theatre (3,3) (Formerly Dance 336A,B)
Prerequisite: 336A is prerequisite to 336B. Theories, approaches and techniques of dance utilized in musical comedy. A—Emphasis on the ensemble and individual approaches to the style. B—Introduced is the concept of basic choreography in the style of musical comedy. (6 hours activity)

342 Simplified Technical Production (3)
Open to theatre education majors only. Simplified inexpensive methods of producing in: design, costume, makeup, production organization and technical problem solving. Includes handling of limited resources, untrained personnel, improper facilities and equipment. Participation on production crews. Supplements the theatre education program in technical theatre. (More than 6 hours activity)

350 Organization for Production (1)
Prerequisite: Theatre 370A. Theory and training in backstage management, stressing interrelationships of production personnel. Students will serve as crew heads or stage managers. Sophisticated production abilities are mandatory. (More than 2 hours activity)

363A,B Intermediate Acting and Characterization (3,3)
Prerequisites: Theatre 241, 251, 263 and audition. Emphasis on extended and integrated speech and movement problems in characterization. Ensemble acting, extensive analysis and exploration and basic television techniques. (6 hours activity)

364 Seminar in Playwriting (3)
Prerequisite: evidence of student's previous interest in creative writing and consent of instructor. Study of superior models, development of style, and group criticism and evaluation of each student's independent work, as it relates to playwriting. May be repeated for credit. (Same as English 364)

365 Television/Film Writing (3) (Formerly 383)
Study of the principles and practices and experience in the writing of scripts and other forms of continuity for television film. May be repeated for credit.

366 Afro-American Dance (2) (Formerly Dance 366)
Study of primitive and tribal rhythm including jazz and other derivational dances of Africa. (1 hour lecture, 2 hours activity)

370A,B Fundamentals of Directing (3,3)
Prerequisites: 370A is prerequisite to B; Theatre 263, or consent of instructor. The study of prerehearsal problems and procedures, of the structural analysis of plays, and of composition, picturization, pantomimic dramatization, movement and rhythm on stage and in television. Practice in directing scenes. (6 hours activity)

371 Radio Production: Dramatic Techniques (3)
Prerequisite: Theatre 381. The art of producing radio programming material, including development of the theatrical radio commercial, the radio personality, and dramatic radio entertainment. (6 hours activity)

372 Dance Kinesiology (3) (Formerly Dance 372)
Study of structural aspects of the human body and factors that affect human movement.

374 Dance in Cultural Perspective (3) (Formerly Dance 375)
History of dance from primitive times to the 20th century. Covers development of dance in Europe, the Orient, Asia, America in its general relation to culture.

376 Advanced Stagecraft (3)
Prerequisite: Theatre 276B or consent of instructor. Advanced problems in planning and executing scenery for stage and television. Students will also do advanced work in the scene shop for department productions. (More than 6 hours activity)

377 Stage Costuming (3)
A chronological study of fashions and textiles of major historical periods, methods of research; interpreting historical costume for theatrical statement. (More than 6 hours activity)

378 Historical Styles for Scene Design (3)
Visual survey through lecture and slides of architecture, interior design and furniture from ancient to modern times. Provides necessary basis for advanced design course.

380 Introduction to Radio and Television (3)
The development of the broadcasting industry and its impact and influence on our society. A study of the basic broadcasting practices, audiences, production and programming.

381 Radio and Television Announcing (3)
Theory and practice of control room operation.

384 Television Production and Direction (3)
Prerequisites: Theatre 284. Theory and practice in the production of television programs and announcements: the planning, organizing, directing, rehearsing, performing, recording and editing of television programs and announcements. (6 hours activity)

385 Advanced Theatre Makeup (3)
Prerequisite: Theatre 285. Advanced problems in makeup including special techniques and material prosthetics, hairpieces, masks for television and film; practical application of study through design and supervision of makeup for departmental production. (6 hours activity)

386 Beginning Lighting (3)
Theory and practice in lighting for stage, television and film productions. (More than 6 hours activity)

387 Audio Techniques (3)
Theory, procedures and practice necessary to develop and to integrate live and recorded sound into performing arts productions. Emphasis given to recording, reproduction and studio techniques. (6 hours activity)

392A,B Dramatic Film Production (3,3)
Theory and practice of silent dramatic film production techniques to include mechanical operation of super 8mm and 16mm equipment, preparation of shooting script, direction and production of several short films, criticism and analysis of finished products. (6 hours activity)

393 Dance Theatre Production (3) (Formerly Dance 383)
Prerequisites: Theatre 277, 285, 386, or consent of instructor. The theory and practice of the technical aspects of dance production. (6 hours activity)

400 Theatre Internship (1–3)
Consent of appropriate faculty supervisor. Innovative individually supervised work experience in all areas of theatre to expand the dimensions of the classroom by integrating the formal academic training with direct practical application in the field. Periodic seminar meetings to discuss work.

401 Criticism of the Arts (3)
Prerequisite: senior or graduate standing in the School of the Arts or consent of instructor. Development of criteria and vocabulary for criticism of the visual and performing arts through lectures, readings, discussions, and exhibit and performance attendance. Emphasis on descriptive and evaluative skills in music, art, theatre, dance and cinema criticism.

402A,B Dramatic Activities for Children (3,3)
Prerequisite: 402A prerequisite for 402B, or consent of instructor. The application of creative dramatics as a tool for building and developing creative and socialized processes in children. **A**—Techniques emphasized; sense memory, movement/mine, dialogue, characterization, dramatization (six hours activity). **B**—Advanced techniques including improvisation. (6 hours activity)

403A,B Theatre for Children (3,3)
Prerequisite: 403A prerequisite for 403B or consent or instructor. Theories and principles of theatrical production for an audience of children. **A**—Basic philosophy, theory and practice; **B**—Practical application of advanced production principles. (6 hours activity)

410A Oral Interpretation of Prose Literature (3)
The study of the techniques of criticism and performance used in the interpretation of prose literature.

410B Oral Interpretation of Poetry (3)
The study of the techniques of criticism and performance used in the interpretation of poetry.

410C Oral Interpretation of Drama (3)
The study of the techniques of criticism and performance used in the interpretation of drama.

414 Readers Theatre (3)
The theory, principles and techniques of the interpretation of literature in the medium of readers theatre. May be repeated for credit. (6 hours activity)

422 Advanced Modern Dance (3) (Formerly Dance 422)
Prerequisite: Theatre 222 or consent of instructor. Development of advanced level modern dance techniques. Emphasis on development of individual technique in dance. May be repeated for credit. (6 hours activity)

423 Advanced Dance Composition (3) (Formerly Dance 423)
Prerequisite: Theatre 323 or equivalent. Application of elements and forms in dance composition leading to the choreographing of dances of concert quality. (2 hours lecture, 2 hours activity)

424 Direction of Dance Skills (3)
Prerequisites: Theatre 112, 122, 132, 162 and consent of instructor. Philosophies, techniques, and methods for developing progressions in dance.

426 Experimental Dance Theatre (3) (Formerly Dance 426)
Environmental and sensorial experiences in dance. Includes studies in creativity, sensitivity and perception. Experiments in composition using improvisation, happenings, geographic design and special effects. Field trips. (6 hours activity)

436 Musical Theatre Workshop (3)
Study of roles and representative excerpts from musical theatre and the basic musical, dramatic, language, and dance techniques of this theatrical form. Performance of scenes and musical numbers in a workshop situation. (6 hours activity)

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450 Theatre Management (3)
Discussion and practice of organizational and operational principles of theatrical production in academic, community and professional situations; selection of material, scheduling, staffing and budgeting; front-of-house and box office operation through School of the Arts public presentations. (3 hours lecture, 6 hours activity)

460 Audience Development for the Arts (3)
Analysis of artist/audience composition and interdependence. Discussion and practice of simple methods of securing public attention and support for creative works in art, music, theatre and dance. (3 hours lecture, 6 hours activity)

462 Ethnic Dance (3) (Formerly Dance 462)
Prerequisite: advanced preparation and/or experience in dance or consent of instructor. Theoretical and practical study of folk, square and social forms of dance in terms of cultural and environmental influences (including geography, music, costumes, customs). (2 hours lecture, 2 hours activity)

463A,B Advanced Acting (3,3)
Prerequisites: Theatre 363A,B and audition. A study of historical theories and techniques of styles of acting as an art form. The first semester will include Greek through renaissance periods and the second semester will include the neoclassic periods to contemporary styles. (6 hours activity)

468 Experimental Theatre (3)
An activity course in which dramatic principles are applied through production of full length and one-act plays using various styles of acting and staging. May be repeated up to six units for credit. (More than 6 hours activity)

470A,B Advanced Directing (4,4)
Prerequisites: Theatre 350, 370A,B and 475B,D, or consent of instructor. Readings in theory, analysis of scripts and practice in directing plays for their oral and visual value as theatre. **A**—Each student directs public performances of a one-act play. **B**—Each student directs public performances of two one-act plays or equivalent. (8 hours activity)

471 Creative Dance for Children (3) (Formerly Dance 471)
Methods and materials for teaching creative dance/movement to children. Interrelated arts techniques (movement, music, drama, visual art) for teaching in the classroom and the dance class. (6 hours activity)

472 American Theatre (3)
Prerequisite: junior standing. The development of the art of theatre in the United States from colonial times to the present day; its place and potentialities as a force in a democratic society.

474 Forces and Figures in 20th-Century Dance (3) (Formerly Dance 474)
Intensive study of the development of dance forms (ballet, social, modern from 1900 to the present with emphasis on their general relation to culture).

475A,B,C,D,E World Theatre (3,3,3,3,3)
Examination of the historical and dramatic evolution of world theatre. **A**—Ancient Greece and Rome, Middle Ages; Italian renaissance; **B**—England from 1558–1790; 16th- and 17th-century Spain and France; **C**—18th- and 19th-century Europe and Russia; 19th-century England: **D**—18th- and 19th-century America; the Orient; the modern world. **E**—Historical background and contemporary view of the musical theatre. Students registering for Theatre 475 must have completed the requirements for upper division standing.

477A,B Senior Seminar in Critical Techniques (3,3)
Theatre 477A or consent of instructor prerequisite to B. First semester presents a historical survey of major critical theories as they apply to theatre. Second semester provides the opportunity to apply critical theories to local dramatic productions.

478A,B Rehearsal and Performance (2,2)
A—Acting in stage or television performances. **B**—Technical crew work on stage and television performances. Two units of 478B per semester required of all theatre majors. (More than 6 hours activity)

482 Acting for Film and Television (3)
Prerequisites: Theatre 363B and audition. Advanced acting emphasizing the adaptation of stage techniques for the camera, involving the skills of audition, rehearsal, and final performance, utilizing videotape and studio equipment. (6 hours activity)

484 Television Dramatic Techniques (3)
Prerequisites: Theatre 384 and consent of instructor. Television techniques and production, designed primarily for theatre majors to train the director, actor and designer in the elements of televised drama. (6 hours activity)

486 Advanced Lighting (3)
Prerequisites: Theatre 386 or consent of instructor. The design and technology of lighting. Student will be prepared to design for the stage, dance, film and television. (6 hours activity)

488 Advanced Design (3)
Prerequisites: Theatre 277 and/or 288 and consent of instructor. In-depth study and practice in design styles for various types of theatres and for television and film. Team-teaching in advanced design, coordinating scenery and costume design projects.

490 Television/Film Aesthetics and Criticism (3)
Prerequisites: Theatre 290A,B, 384 or consent of instructor. An exploration of the nature of film and television through aesthetic and theoretical bases and the establishment of a critical basis for film and television evaluation and understanding.

492A,B Advanced Dramatic Film Production (3,3)
Prerequisites: Theatre 392A,B. Theory and practice of 16mm sound film production with emphasis on the narrative film. Labs and lectures include the development of scripts, uses of sound film, editing and directing the sound film and production of several short films. (6 hours activity)

499 Independent Study (1–3)
Undergraduate creative or research projects. Open to advanced students with consent of instructor. May be repeated for credit. *Course application form with appropriate signatures, must be on file in department office prior to registration.*

500 Introduction to Graduate Study in Theatre (3)
Introduction to methodological problems in graduate research. Location of source materials, including library and original data; research and project design and execution; interpretation of researches. *Must be taken the first semester after admission to graduate study.*

501 Graduate Seminar: Advanced Theatre Theory (3)
Prerequisite: Theatre 500. Directed research with emphasis on the relationship between historical backgrounds and developments in the theatre and the student's area of concentration.

503 Seminar: Theatre for Children (3)
Prerequisite: Theatre 403A or consent of instructor. Critical study of the historical development, philosophies, theories, techniques and trends of the art of theatre for children. Research and investigation of problems related to the use of materials in educational, community and professional children's theatres.

510 Graduate Seminar in Oral Interpretation (3)
The historical and philosophical backgrounds in the development of interpretation and its relationship to contemporary theory and practice.

550 Production Planning in Theatre Arts (3) (Formerly 576)
History and philosophy of production problems in theatre arts. Organization of the university theatre as it relates to the total university program. Planning of the production within the limitations of budgets and physical facilities.

566 Seminar: Stagecraft (3)
Advanced theory and practical work in the preparation and installation of scenery for production. Includes engineering drawings, exploration of materials, and research into new methods of theatre technology. *Enrollment limited to M.F.A. students.*

571 Graduate Seminar: Major Writers (3)
As appropriate to the specialized research of instructor this course will offer directed research and writing, group discussion, and lectures covering major figures. May be repeated with different content for additional credit. (Same as English 571)

572 Graduate Seminar: Literary Genres (3)
As appropriate to the specialized research and publications of instructor, this course will offer directed research and writing, group discussion and lectures covering such major literary types as: tragedy, comedy and historical drama. With consent of adviser, may be repeated with different content for additional credit. (Same as English 572)

577 Seminar: Costuming (3)
Exploration of sophisticated production problems and their solutions. Examination of specific designers, past and present. Research in practical methods of interpreting the designer's sketch. *Enrollment limited to M.F.A. students.*

588 Seminar: Design and Technical Theatre (6)
Design for productions prior to final project. Includes faculty and student critiques. Theoretical projects tailored to individual areas of student needs. Must be taken each semester. *Enrollment limited to M.F.A. students.*

597 Project (1–3)
Prerequisites: consent of instructor, student's graduate committee and department executive committee. Development and presentation of a creative project in the area of concentration beyond regularly offered coursework. May be repeated to a maximum of six units. *Student must complete course application form by the end of the seventh week of the semester preceding the semester in which the work is to be done.*

598 Thesis (3)
Prerequisites: consent of student's graduate committee. Development and presentation of a thesis in the area of concentration beyond regularly offered coursework. *Course application form, with appropriate signatures, must be on file in department office prior to registration.*

599 Independent Graduate Research (1–3)
Open to graduate students in theatre with consent of instructor and student's graduate committee. May be repeated for credit. *Course application form, with appropriate signatures, must be on file in department office prior to registration.*

THEATRE EDUCATION COURSES

442 Teaching Theatre in the Secondary School (3)
Prerequisite: admission to teacher education. Objectives, methods and materials, including audiovisual instruction for teaching in secondary schools.

449A Student Teaching in Theatre in the Secondary School (10)
See description under Division of Teacher Education.

449B Student Teaching Seminar (2)
See description under Division of Teacher Education.

business administration and economics



SCHOOL OF BUSINESS ADMINISTRATION AND ECONOMICS

Dean: Jack W. Coleman
Associate Dean: Edward R. Zilbert

FACULTY

Department of Accounting: Henry Anderson, Chair
Dale Bandy, Jack Coleman, Eugene Corman, Mary Fleming, Clyde Hardman, John Hinds, A. Jay Hirsch, Robert Lamden, Trini U. Melcher, Robert Miller, Shirish Seth, Randy Swad, Robert Vanasse, John Williams, Dorsey Wiseman, John Woo, Arnold Wright

Department of Economics: Joyce Pickersgill, Chair
Robert Ayanian, Kwang-wen Chu, James Dietz, Peter Formuzis, Kenneth Goldin, Ellen Goldstein, Levern Graves, Lionel Kalish, Sidney Klein, John Lafky, Maryanna Lanier, Stewart Long, Robert Michaels, Gary Pickersgill, Jack Pontney, Guy Schick, Eric Solberg, Norman Townshend-Zellner

Department of Finance: Peter Mlynaryk, Chair
Dick Bednar, Albert Bueso, Donald Crane, Kenneth Daane, A. R. Davison, Albert J. Fredman, John Nichols, Dennis O'Connor, Radha Sharma, Peter Sibbald, Frank Taylor, Marco Tonietti, B. E. Tsagris, Donald Valachi

Department of Management: Geoffrey King, Chair
Farouk Abdelwahed, Michael Ames, Thomas Apke, Kenneth Bobele, Mei Liang Bickner, Robert Chapman, Fred Colgan, James Conant, Richard Gilman, Granville Hough, Richard Houston, Brian Kleiner, Thomas Maher, Leland McCloud, Kent McKee, Tai Oh, Edgar Wiley

Department of Marketing: Irene Lange, Chair
Robert Barath, William Bell, Jerry Deen, Paul Hugstad, Robert Jones, Don Mann, Robert Olsen, Frank Roberts, James Taylor, Ronald Zimmer

Department of Quantitative Methods: LaVerne Stanton, Chair
Gora Bhaumik, Gary Bloom, Wen Chow, Roger Dear, Ben Edmondson, Nicholas Farnum, Basil Gala, William Heitzman, William Lau, John Lawrence, Marshal McFie, F. Walter Mueller, Barry Pasternak, Herbert Rutemiller, Sohan Sihota, Ram Singhania, David Stoller

Academic Objectives of the School

The faculty of the school believes that it can best optimize its effectiveness in achieving the broad educational objective of the university by concentrating its energies on the exploration and teaching of relevant concepts, principles and practices, including interrelationships. Additionally, the faculty recognizes the need for integrating and relating the various disciplines into a balanced and thought-provoking educational experience for the student. While considerable emphasis must be placed on the need for breadth of knowledge and creativity in thought and actions, there must also be emphasis on exploration and analysis in some depth of those disciplines most relevant to the business profession. These disciplines are recognized to be interrelated and are to be integrated through the application of economics, behavioral and quantitative sciences, systems theories and concepts, decision theories, computer sciences, logic, and theoretical and applied research methodology. In addition, the faculty of the school has set forth specific objectives for its curriculum and related programs. A summary statement of these objectives is as follows:

1. *Educational and Professional*
   Through a study of the various theoretical and practical business and economic models, policies and procedures, each student is to be afforded and provided with technical expertise in a chosen discipline—accounting, economics, finance, management, marketing, quantitative methods and business education—to a depth acceptable to prospective employers for beginning professional employment.
2. *Human and Ethical*
   A major part of effective society and business leadership is related to organization and direction of human resources to achieve general and specific goals. Therefore, a knowledge of human values—the ethical, psychological and sociological foundation for human behavior—is essential.

This includes an awareness and understanding of the nature of human values, of individual goals and the forces which lead to their achievement; the function of leadership in relating individual and enterprise goals; the impact of group dynamics, informal organizations, and interpersonal relationships on the administrative process; and the need for a personal code of ethics.

3. *Socioeconomic, Political and Cultural Environment*
   Firms do not operate in a vacuum, and information about the external forces and constraints which bear on the enterprise comprises a necessary body of knowledge for competent business planners and administrators. In particular, development and economic literacy to support rational choice; recognition of economic implications resulting from economic policy decisions by various levels of government; and a conceptualization of the impact of the various institutions on the enterprise and the impact of business leadership decisions on the social system as a whole are stressed.

Student Organizations

Chapters of the following national honor societies have been established on campus with membership open to qualified students: Alpha Delta Sigma (advertising), Beta Alpha Psi (accounting), Beta Gamma Sigma (business), Financial Management Association Honor Society (Finance), Omicron Delta Epsilon (economics), Phi Kappa Phi (all campus), Pi Sigma Epsilon (Marketing). In addition there are the following departmentally affiliated clubs which students are encouraged to join: the Accounting Society, Data Processing Management Association, Economics Association, Finance Association, Marketing Club, Personnel and Industrial Relations Association, QM Club, Rho Epsilon (Real Estate-Finance) and Society for the Advancement of Management.

Internship and Cooperative Education Program

The School of Business Administration and Economics is offering a limited number of internship positions in business, industry and public agencies for qualified business students. Students interested in this program should be of junior standing and have received consent of the internship adviser. Opportunities exist in such areas as: accounting and auditing; cost/benefit analysis and econometrics; finance and real estate; insurance and banking; management and industrial relations; marketing, sales, and advertising; business data systems; and other specialized areas fitting the need of the student and the business community. In return for the student's participation in the School of Business Administration and Economics internship program, the student intern will receive academic credit through Business Administration 495 (on a credit/no credit basis), plus first-hand experience and financial remuneration from their employers.

For further information and/or applications on this program, please contact the Center for Cooperative Education and Internships.

Undergraduate Program in Business Administration and Economics

The School of Business Administration and Economics offers two undergraduate degree programs: the B.A. in Business Administration and the B.A. in Economics. Students majoring in the school are encouraged to elect courses in other divisions of the university, particularly in the area of behavioral, social, and political sciences, and foreign languages. It is assumed that the first half of their university work toward a bachelor's degree represents a required basic education in communication, mathematics, natural science, social sciences and the humanities. Since quantitative and written communication skills are increasingly emphasized in business and the social sciences, students who contemplate enrollment in either business administration or economics are encouraged to take college preparatory English and four years of high school mathematics.

> **IMPORTANT:** College algebra, or three years of high school mathematics including a second course in algebra, will be a minimum mathematical prerequisite for entrance to the program.

BACHELOR OF ARTS IN BUSINESS ADMINISTRATION

Degree Requirements

In addition to the required coursework in business administration, students must complete Math 130 or its equivalent and demonstrate proficiency in written communication (See No. 8 below). *If credits for elementary accounting, economics, calculus and the English requirements have not been met, it will be necessary to complete these requirements before or during the first semester of the junior year.*

In addition to the requirements listed below for the major, students must meet the other university

requirements for a B.A. degree. The degree requirements are as follows:

1. Completion of a minimum of 60 semester credit hours in the School of Business Administration and Economics, of which 42 semester credit hours must be upper division.
2. Completion of the required core courses in the School of Business Administration and Economics.
3. Completion of 18 semester credit hours of required courses in an area of concentration to be selected by the student. (Refer to specific departmental requirements.)
4. Completion of at least 50 percent of the required units in the concentration and 15 of the last 24 units are required in residence in the School of Business Administration and Economics.
5. Completion of at least 50 semester credit hours in areas other than business administration.
6. Attainment of at least a 2.0 grade point average (C average) in all university work attempted, in all courses taken in the School of Business Administration and Economics, and in the area of concentration.
7. Completion of Math 130, A Short Course in Calculus, or its equivalent.
8. Demonstration of proficiency in written communication skills. Students must pass an English written proficiency test administered by the university. (Information on the dates offered and the costs of the tests may be obtained from the University Testing Center.)

Academic Advisement for Business Administration Students

The School of Business Administration and Economics provides an advisement service for its students. New students are particularly encouraged to consult an adviser in the school's Academic Programs Office to review program and course requirements.

CORE: The business administration and economics courses listed below are required of all students majoring in business administration:

Lower Division	*Units*
Eco 100 The Economic Environment *and*	3
Eco 200 Principles of Economics, *or*	3
Eco 210 Principles of Economics (5)	
Acc 201A,B Elementary Accounting	6
Man 246 Business Law	3
QM 265 Computer Methods in Business and Economics	3
Upper Division:	
Eco 310 Intermediate Microeconomic Theory *or*	
Eco 320 Intermediate Macroeconomic Theory	3
Fin 320 Business Finance	3
Man 339 Organization and Management Theory	3
Man 340 Behavioral Science for Business	3
Mar 351 Principles of Marketing	3
QM 361 Statistical Methods in Business and Economics	3
QM 362 Management Science Methods in Business and Economics *or*	
QM 363 Management Science	3
Man 449 Seminar in Business Policies	3
	42

ADVISORY NOTE Students who concentrate in quantitative methods must take Math 150A in lieu of Math 130.

Management and quantitative methods require Eco 310. All other departments require either Eco 310 or 320.

Students taking quantitative methods as their area of concentration must take QM 363 in lieu of QM 362.

Suggested Sequence of Business Core Courses

The following listing is the suggested course sequencing for the business core:

Freshman level:	*Units*
Math 130 A Short Course in Calculus	4
Eco 100 The Economic Environment	3
Sophomore level:	
Eco 200 Principles of Economics	3
Man 246 Business Law	3

Acc 201A,B Elementary Accounting 6
QM 265 Computer Methods in Business and Economics 3

Junior level:

Man 339 Organization and Management Theory 3
Man 340 Behavioral Science for Business 3
Eco 310 Intermediate Microeconomic Theory *or*
Eco 320 Intermediate Macroeconomic Theory 3
QM 361 Statistical Methods in Business and Economics 3
Mar 351 Principles of Marketing 3
Fin 320 Business Finance 3
QM 362 Management Science Methods in Business and Economics *or*
QM 363 Management Science 3

Senior level:

Man 449 Seminar in Business Policies 3

AREAS OF CONCENTRATION FOR MAJORS IN BUSINESS ADMINISTRATION

A student in business administration should select an area of concentration as soon as possible, but not later than the second semester of the junior year, and take the required courses in the area.

Accounting

301A,B Intermediate Accounting
302 Cost Accounting
308 Federal Income Tax
And at least two of the following courses:
401 Advanced Accounting
402 Auditing
403 Accounting for Governmental and Nonprofit Entities
406 Cost Control
407 Integrated Data Processing Systems
408 Problems in Taxation
470 Tax Research, Practice and Procedures

Economics

310 Intermediate Microeconomic Theory
320 Intermediate Macroeconomic Theory
410 Government in Business
12 units of upper division economics electives, 3 units of which must be 400-level (Management 446, Managerial Economics, will be accepted as an economics elective.)

Finance

The department offers four primary areas of emphasis: financial management, real estate, securities-investments and insurance. Courses are also offered in personal finance. A finance concentration requires Finance 331, Financial Analysis, plus 15 additional credit hours offered by the Finance Department. The student may choose all courses from one area or may elect to sample several areas. Finance 310, Personal Financial Management, will not count toward the area of concentration.

Financial Management Emphasis: Designed for students interested in the financial organization and operation of financial and business enterprises. Students interested in this area of emphasis are encouraged to include the following courses in their plan of study:

332 Financial Administration
370 International Business Finance
425 Commercial Bank and Financial Institution Management
432 Financial Forecasting and Capital Budgeting
433 Problems in Business Finance
440 Capital and Money Markets

Real Estate Emphasis: Designed for students interested in a broad range of careers in real estate and urban development. Students interested in this option are advised to include the following courses in their plan of study:

351 Real Estate and Urban Land Analysis *
452 Real Estate Finance *
453 Real Estate Valuation *
454 Real Estate and Urban Development *
455 Real Estate Investment Analysis

* These courses partially satisfy the California State Real Estate Brokers License Examination requirements. Please contact the Finance Department for further details.

456 Property Development and Real Estate Policy Analysis
457 Case Studies in Real Estate/Land Use Law *
459 Real Estate Research

Securities-Investments Emphasis: Designed for students interested in securities and investment analysis, money and capital markets, and portfolio management. Students interested in this area of emphasis are encouraged to include the following courses in their plan of study:

340 Security Investments
440 Capital and Money Markets
442 Security Analysis and Portfolio Management
443 Portfolio Analysis

Insurance Emphasis: Designed for students interested in careers in insurance or in applying correct insurance procedures to business and personal affairs. Students interested in this emphasis should include the following courses in their plan of study:

360 Principles of Insurance
461 Risk Management
462 Life and Health Insurance

Management

In consonance with university and school objectives, the major goals of the Management Department are to:

1. Provide students with foundational competence in the utilization of the factors of production;
2. Develop in each student an understanding of the theory and practices needed for successful performance in managerial and staff positions in business, government and the community;
3. Provide students with a knowledge of human values—ethical, psychological and sociological foundations for human behavior, and the impact of group dynamics, informal organizations, and interpersonal relationships on the administrative process.

Students with an area of concentration in management must choose one of the three following emphases:

Administrative Management Emphasis: Designed for students interested in all aspects of business or in general supervision of organized activity.

342 Production Operations
343 Personnel Management
444 Management of Systems
446 Managerial Economics *or*
447 Management Decision Games

Two other concentration courses to be arranged in consultation with the Management Department.

Operations Management Emphasis: Designed for students who have interest in and aptitude for managing new projects and production operations in both manufacturing and nonmanufacturing.

342 Production Operations
343 Personnel Management
445 Advanced Production Operations
446 Managerial Economics *or*
447 Management Decision Games

Two other concentration courses to be arranged in consultation with the Management Department.

Human Resources Management Emphasis: Designed for students interested in interpersonal relations and group leadership opportunities in all organizations but specifically found in manpower management, small business, industrial relations, hospital and welfare administration, and organizations carrying out social change.

343 Personnel Management
441 Labor-Management Relations
443 Individual, Interpersonal, and Group Dynamics for Management
444 Management of Systems

Two other concentration courses to be arranged in consultation with the Management Department.

* These courses partially satisfy the California State Real Estate Brokers License Examination requirements. Please contact the Finance Department for further details.

Management Information Systems

The objective of the management information systems concentration is to prepare its graduates for careers in the areas of information processing, including information systems design, programming, and management. This concentration provides alternative areas of emphasis in the junior or senior year: The design emphasis includes analysis of data structures in applications, while the management emphasis stresses the selection and use of information to support decision systems in organizations.

Brochures on career planning in information systems are available in the Placement Center and the Quantitative Methods Department office.

Required of *all* students in the management information systems concentration

Man 244 Introduction to Systems Concepts
QM 270 File Concepts and COBOL Programming
QM 300 Elements of Information Systems Design and Data Communication
Acc 302 Cost Accounting

Required for design emphasis:

QM 404 Analysis of Information Systems
QM 408 Data Base Management Systems

Required for management emphasis:

Man 444 Management of Systems
Man 494 Seminar in Management Information Systems

It is also required that an additional six units of upper division work are to be selected in consultation with the students' departmental adviser.

Recommended Electives

Students are encouraged to take as many of the following recommended electives as possible:

Acc 407 Integrated Data Processing Systems
Computer Sci 310 Systems Programming
Computer Sci 412 Computer Performance Evaluation
Man 450 Information Systems for Production and Operations Management: Material Requirements Planning
QM 409 Distributed Data Processing
QM 411 Data Processing with Minicomputers
QM 412 Privacy, Security and Data Processing
QM 420 Applied Statistical Forecasting
QM 448 Digital Simulation in Business and Economics

Marketing

Students with an area of concentration in marketing choose a career path from the following areas: marketing management, marketing research, advertising, sales management, retailing, international marketing or physical distribution.

Brochures and advising on career path selection are available in the department office. In addition to Marketing 351, all students will take 18 hours in marketing. Students must choose one of the seven following emphases:*

(Please note that three of the emphases include behavioral and quantitative aspects. Students should choose one course from each option; behavioral courses are: Mar 354, Principles of Advertising; Mar 356, Creative Motivation in Marketing; and Mar 470, Consumer Behavior; quantitative courses are: Mar 379, Marketing Research Methods; and Mar 457, Quantitative Marketing Analysis.)

Advertising Management Emphasis

354 Principles of Advertising
379 Marketing Research Methods
470 Consumer Behavior
454 Advertising Management
459 Marketing Problems
One marketing elective

Marketing Management Emphasis

Behavioral option (354 or 356 or 470)
Quantitative option (379 or 457)
359 Industrial Marketing

* *All* students must take Marketing 351 prior to the courses listed within the departmental emphasis areas.

459 Marketing Problems
Two marketing electives

Marketing Research Emphasis
379 Marketing Research Methods
470 Consumer Behavior
479 Research Problems in Marketing
459 Marketing Problems
Two marketing electives

Physical Distribution Emphasis
358 Physical Distribution
Behavioral option (354 or 356 or 470)
457 Quantitative Marketing Analysis
451 Management of Physical Distribution Operations
459 Marketing Problems
One marketing elective

Retailing Emphasis
352 Principles of Retailing
354 Principles of Advertising
379 Marketing Research Methods
470 Consumer Behavior
456 Marketing Problems in Retail Sector
459 Marketing Problems

Sales Management Emphasis
356 Creative Motivation in Marketing
379 Marketing Research Methods
470 Consumer Behavior
455 Management of the Sales Force
459 Marketing Problems
One marketing elective

International Marketing Emphasis
Behavioral option (354 or 356 or 470)
379 Marketing Research Methods
458 International Marketing
459 Marketing Problems
Two marketing electives

Quantitative Methods

Through study of the theory and practice of the disciplines of computer applications, information systems, operations research and statistics, a student is prepared to effectively utilize quantitative information in evaluating alternatives and making decisions.

Students with a quantitative methods concentration are required to take Math 150A, Calculus *; QM 170, Introduction to Quantitative Methods; QM 265, Computer Methods in Business Economics; QM 361, Statistical Methods in Business and Economics; QM 363, Management Science, in lieu of QM 362; QM 461, Advanced Statistics.

In addition to the required courses above, the student must choose at least 15 units of electives in an approved study plan. Electives may include any of the following, as well as approved courses in other disciplines. There are three recommended areas of study:

Information Systems Area
300 Elements of Information System Design and Data Communications
404 Analysis of Information Systems
408 Data Base Management Systems
409 Distributed Data Processing
411 Data Processing with Minicomputers
412 Privacy, Security and Data Processing

Operations Research Area
448 Digital Simulation in Business and Economics

* Math 150A may be taken with the credit/no credit option.

465 Linear Programming
466 Integer and Nonlinear Programming
470 Conflict, Bargaining and Cooperation
471 Dynamic Programming and Network Flows
472 Quantitative Methods in Production and Inventory Control
490 Queueing and Stochastic Process Models in Business and Industry

Statistics Area

367 Statistics and Society
420 Applied Statistical Forecasting
422 Surveys and Sampling Design and Applications
430 Nonparametric Statistics
467 Statistical Quality Control
468 Design of Experiments
469 Reliability Statistics
475 Multivariate Analysis

MINOR IN BUSINESS ADMINISTRATION

Students concentrating in disciplines other than business are able to minor in business administration with the following requirements:

Eco 100 The Economic Environment *and*	3
Eco 200 Principles of Economics, (3) *or* Eco 210 Principles of Economics (5)	3
Acc 201A, B Elementary Accounting	6
Man 246 Business Law	3
QM 265 Computer Methods in Business and Economics, *or* QM 289 Computer Methods in Social Science	3
Man 339 Organizational and Management Theory, *or* Man 340 Behavioral Science for Business	3
Fin 320 Business Finance	3
Mar 351 Principles of Marketing	3
Total	27–29

No more than nine of these units may be counted towards general education requirements. Students must demonstrate proficiency in written communications skills by meeting the English proficiency requirements applicable for the major in business administration. Students who plan on taking other business courses as electives should take Math 130 and QM 265 rather than QM 289.

BUSINESS EDUCATION

Students who wish to major in business administration in preparation for a career as a secondary school teacher in business subjects must meet the requirements of the School of Business Administration and Economics and the secondary school teacher education program for the single subject credential.

The requirements for a major in business education are as follows:

1. The core requirements as set forth for all business administration majors.
2. Completion of 18 hours of required coursework in one of the seven areas of concentration:
   a. Accounting
   b. Economics
   c. Finance
   d. Management
   e. Management Information Systems
   f. Marketing
   g. Quantitative methods
3. Meet the school's minimum requirement of 60 credit hours in business administration and economics courses.
4. A maximum of 12 credit hours in the secretarial field may count as lower-division electives toward the degree in business administration and economics. (The university does not offer work in secretarial training, typewriting, or business machines, but will accept some transfer work in these areas taken at other institutions.)
5. Completion of at least 50 credit hours in areas outside business administration and economics.
6. Meet the math and English proficiency requirements for the School of Business Administration and Economics.

Under the Ryan Act, majors and minors are not specified on the teaching credential. Students who are business majors and those who desire to use business as an alternative teaching area (formerly a minor) should consult the business education adviser in the Division of Teacher Education, School of Human Development and Community Service, during their sophomore year concerning requirements for the teaching credential.

MASTER OF BUSINESS ADMINISTRATION

Applicants, as well as continuing students, should read carefully "The Program of Master's Degrees" in this catalog and consult the *Graduate Bulletin,* particularly the "Steps in the Master's Degree Program."

Programs of Study

The School of Business Administration and Economics offers two plans for the M.B.A. degree.

Plan I is a broad, integrated program designed primarily for students with an undergraduate degree in a field other than business administration.

Plan II is an integrated program allowing some concentration in an area of specialization. Under this plan the student is required to complete 12 units in an area of concentration. It is designed primarily for students with baccalaureate degrees in business administration.

The procedural steps for admission to, and completion of, the Master of Business Administration degree follow:

Admission

A. Regular admission into the M.B.A. program (i.e., classified standing) of the School of Business Administration and Economics requires development of an approved study plan and the following:
   1. A bachelor's degree from a fully accredited college or university.
   2. A combination of grade-point average (GPA) and test score on the Graduate Management Admissions Test (GMAT) according to the following rules:
      a. An overall undergraduate GPA of at least 2.5 plus a minimum GMAT score of 450 or a combination of GPA and GMAT scores according to the formula: 200 times overall undergraduate GPA plus GMAT score equals 1000 or over, *or*
      b. At least a 2.75 GPA on the last 50 percent of the coursework taken for the bachelor's degree plus a minimum GMAT score of 450 *or* a combination of GPA and GMAT score according to the formula: 200 times GPA on the last 50 percent of coursework taken* plus GMAT score equals 1025 or over, *or*
      c. At least a 3.0 GPA score on the last 60 sequential semester units of coursework plus a minimum GMAT score of 450 † *or* a combination of GPA and GMAT scores according to the formula: 200 times GPA on the last 60 sequential semester units of coursework † plus GMAT score equals 1050 or over.

B. Admission into the M.B.A. program (conditionally classified standing) of the School of Business Administration and Economics:
   An applicant who does not meet the entrance requirements for classified standing, and/or who has deficiencies in a prerequisite preparation which in the opinion of the appropriate school authority can be met by additional preparation, including qualifying examinations, may be considered for admission into the M.B.A. degree program with conditionally classified graduate standing. Such students, at a minimum, must meet the general university admission requirements for graduate standing. Interested students should contact the associate dean, academic programs, School of Business Administration and Economics, for additional information.

C. *For Plan II,* the equivalent to an undergraduate degree in business from Cal State Fullerton is required in addition to other requirements listed in A and B above.
   The courses in the major are to be no more than seven years old and are to have at least a 3.0

* All work within any given quarter or semester must be included even though that will result in more than 50 percent.

† All work within any given quarter or semester must be included even though that will result in more than 60 semester units. The units to be included in the last 60 semester units may come only from the following: (1) Work taken in postbaccalaureate status during the last seven years towards fulfilling M.B.A. coursework requirements; (2) units taken under a prescribed remedial program agreed to by the associate dean, academic programs, School of Business Administration and Economics; (3) units earned prior to the bachelor's degree.

grade-point average. Courses with grades less than C must be repeated. In addition the Plan II student will be required to successfully complete a business foundation examination which covers the core requirements in the school's undergraduate degree in business.

PLAN I

CURRICULUM

First-Year Program

Acc 510 Financial Accounting
Acc 511 Managerial Accounting
Eco 514 Principles and Problems of Economic Policy, A
Eco 515 Principles and Problems of Economic Policy, B
Fin 517 Managerial Finance
Man 516 Organizational Theory and Management of Operations
Man 518 Legal Environment of Business
Mar 519 Marketing Management
QM 512 Quantitative Business Decision Techniques, A
QM 513 Quantitative Business Decision Techniques, B

Note: Upon completion of the first year curriculum, Plan I students are required to successfully complete the Business Foundation Examination.

Second-Year Program

Acc 521 Seminar in Administrative Accounting
Eco 522 Comparative Economics Seminar
Fin 523 Seminar in Corporate Financial Management
Man 524 Seminar in Organizational Behavior and Administration
Mar 525 Seminar in Marketing Problems
QM 526 Quantitative Business Decision Analysis *or*
QM 560 Operations Research
BAE 596 M.B.A. Management Game
Two electives at the 400- or 500-level

PLAN II

CURRICULUM

(A minimum of 24 of the 33 units required for the degree must be at the 500 level.)

Required Courses

Acc 511 Managerial Accounting * *or*
Acc 521 Seminar in Administrative Accounting
Eco 515 Principles and Problems of Economic Policy, B *or*
Eco 522 Comparative Economics Seminar
Fin 523 Seminar in Corporate Financial Management
Man 524 Seminar in Organizational Behavior and Administration
Mar 525 Seminar in Marketing Problems
QM 526 Quantitative Business Decision Analysis *or*
QM 560 Operations Research
BAE 596 M.B.A. Management Game

Concentration

Each student shall elect an area of concentration of at least 12 units to be approved by the department chair concerned, or his designee within the department, and the associate dean, academic programs. Concentrations offered in Plan II are: accounting, finance, international business,† management, marketing and quantitative methods.

Terminal Evaluation

The terminal evaluation required of all students in the M.B.A. program is BAE 596, M.B.A. Management Game.

For further information, consult the School of Business Administration and Economics Announcement and/or the associate dean, academic programs, in the School of Business Administration and Economics.

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* Students who have credit in cost accounting may not receive credit for Accounting 511.

† Students desiring an international business concentration should contact the academic programs office, School of Business Administration and Economics, regarding concentration requirements.

BACHELOR OF ARTS IN ECONOMICS

The economics major is designed to prepare students for positions in business, education and government, and for graduate work in economics and related disciplines.

Requirements

Required of all students for the degree:

1. Completion of lower-division requirements (see below) and 27 semester credit hours in upper-division courses. At least 15 semester hours must be completed in residence in the School of Business Administration and Economics.
2. Completion of the major course requirements for economics majors as listed below. Students in economics are required to take Quantitative Methods 265 or equivalent as prerequisite to Quantitative Methods 361.
3. Completion of at least 60 credit hours in areas other than economics and business administration. Of these 60 semester credit hours the department suggests that special attention be placed on related social sciences, particularly political science, sociology, history and geography, as well as philosophy and the fields of quantitative methods and mathematics. A list of suggested courses is available in the Economics Department office.
4. Students must attain at least a 2.0 grade-point average in all college or university work attempted, and in all courses in the School of Business Administration and Economics.
5. Demonstration of proficiency in written communication skills. Students must pass an English written proficiency test administered by the university. (Information on the dates offered and the costs of these tests may be obtained from the University Testing Center.)

Business administration and economics courses required of all students majoring in economics are listed below:

Lower Division

(Students who have done exceptionally well in high school economics may wish to consult the policy, appearing elsewhere in this catalog, on challenge examinations.)

	Units
Eco 100 and 200 or 210 Principles of Economics	5–6
Math 130, A Short Course in Calculus *and* Acc 201A,B Elementary Accounting; *or* Math 150A,B Analytic Geometry and Calculus and Acc 201A	10–11
QM 265 Computer Methods in Business and Economics	3
Total	18–20

Upper Division

Eco 310 Intermediate Microeconomic Theory	3
Eco 320 Intermediate Macroeconomic Theory	3
Eco 420 Money and Banking	3
QM 361 Statistical Methods in Business and Economics	3
Fifteen hours of upper division electives in economics approved by the student's adviser	15
Total	27

MINOR IN ECONOMICS

A minor in economics may be achieved by taking the following courses:

Eco 100 and 200 *or* 210 Principles of Economics	5–6
Eco 310 Intermediate Microeconomic Theory	3
Eco 320 Intermediate Macroeconomic Theory	3
Nine hours of upper division economics electives	9
Total	20–21

MASTER OF ARTS IN ECONOMICS

The Master of Arts in Economics is a program designed both for candidates who will be studying full time and for those employed full time or part time while working for the M.A. degree. The program is separated into two parts, the core requirements and the electives. The purpose of the core is to provide rigorous training fundamental to the discipline of economics, yet eminently useful to the candidate, whatever the special area of interest. It represents a planned sequence of work, progressing from economic theory (Economics 502 and 503) through economic model building (Economics 505) to the seminar (Economics 506) in which the student prepares a project applying what has been learned in theory and method to an area of special interest. The purpose of the electives is to provide the student an opportunity to apply economic theory in specialized areas of interest.

The procedural steps for admission to, and completion of, the Master of Arts in Economics follow:

Admission Requirements (Classified Standing)

1. Apply for admission to the university and declare the objective to be a Master of Arts in Economics degree. This must be accomplished at the Office of Admissions before the dates established in the university calendar.
2. Contact the academic programs office of the School of Business Administration and Economics and the graduate coordinator of the Department of Economics to secure informal advisement. The informal advisement should occur at least three weeks prior to your first registration.
3. Possess a baccalaureate degree from an accredited institution with an overall grade-point average in all undergraduate work of not less than 2.5.
4. Satisfactory level of performance on the Graduate Record Examination (verbal and quantitative), aptitude only.
5. Preparation and approval of a study plan in consultation with the graduate adviser.
6. Completion of an application for classified standing.
7. Satisfactory completion of program prerequisites listed below.

Prerequisites

Acceptance into the program requires completion of the following prerequisite courses, or their equivalent(s) (with a grade-point average of 3.0):

	Units
Principles of Economics	6
Calculus (one semester)	4–5
Intermediate Microeconomic Analysis	3
Intermediate Macroeconomic Analysis	3
Statistics (analytical)	3
Money and Banking	3
Total	22–23

Admission Requirements (Conditionally Classified Standing)

An applicant who does not meet the entrance requirements for classified standing, and/or who has deficiencies in a prerequisite preparation which in the opinion of the appropriate school authority can be met by additional preparation, including qualifying examinations, may be considered for admission into the Master of Arts in Economics program with conditionally classified graduate standing. Such students, at a minimum, must meet the general university admission requirements for graduate standing: a baccalaureate degree from an accredited institution and a grade-point average of at least 2.5 in the last 60 semester units attempted. Interested students should contact the graduate adviser, Department of Economics.

Program of Study

1. A core of 12 graduate units in economics is required:

		Units
Eco 502	Advanced Microeconomic Analysis	3
Eco 503	Advanced Macroeconomic Analysis	3
Eco 505	Economic Models and Forecasting	3
Eco 506	Seminar in Economic Analysis (*project* required)	3
	Total	12

2. In addition to the core, 18 units of electives are required as follows:
   a. Eighteen units of electives at the 400 or 500 level, with a minimum of six and a maximum of 12 in a field outside of but related to economics.
   b. At least nine units of electives must be at the 500 level, six of which must be in economics. In this regard, Economics 596 is specifically designed to serve as an elective in this program. The topic of the course rotates every semester and it may be repeated for credit. The topics offered include international monetary systems, comparative economic systems, history of economic thought, economic history, and advanced topics in micro- and macrotheory.
   c. If nine or more units are taken in fields outside of economics, at least three units must be at the 500 level.

The M.A. in Economics program is sufficiently flexible to meet the educational and career aspirations of a wide range of students. Programs may be individually tailored by the appropriate selection of electives to prepare the student for careers in applied research, urban and regional planning and environmental economics (all candidates are required to complete the core of 12 graduate units in economics above).

Other career objectives may be met by a selection of suitable coursework. The objective of the M.A. program in economics is to provide both a strong theoretical background and focused practical knowledge for those employed in private industry and at all levels of government and to provide the groundwork for those who choose to pursue further graduate work.

For further information, consult the School of Business Administration and Economics Announcement and/or the associate dean, academic programs, in the School of Business Administration and Economics. See also "The Program of Master's Degrees" elsewhere in this catalog, and the *Graduate Bulletin.*

ACCOUNTING COURSES

201A,B Elementary Accounting (3,3)

Prerequisite: Accounting 201A must be taken before 201B. Accounting concepts and techniques essential to the administration of a business enterprise; accounting as a process of measuring and communicating economic information; analyzing and recording financial transactions; preparation of financial statements; analysis and interpretation of financial statements; introduction to managerial accounting; product costing; analysis and techniques for aiding management decisions; management control; the interaction of accounting with the areas of finance, quantitative methods, interpersonal relations, motivation, and data-information systems.

301A,B Intermediate Accounting (3,3)

Prerequisites: Accounting 201B; 301A must be taken prior to 301B. Concepts and principles of accounting theory; preparation of income statements, balance sheets, and statements of changes in financial position; present value and amount concepts; assets, liabilities and stockholders equity; price-level accounting; pensions; leases; earnings per share; financial statement analysis; accounting changes and error analysis.

302 Cost Accounting (3)

Prerequisite: Accounting 201B. The development of accounting information for management of manufacturing enterprises; cost records; cost behavior and allocation; product costing and inventory valuation; flexible budgeting; standard costs; responsibility accounting; an introduction to cost planning and control; and operating decision analysis.

304 Managerial Accounting (3)

Prerequisite: Accounting 201B. Intended for students whose area of concentration is not accounting. Analysis, interpretation, and application of accounting information for managerial decision making; budgets and budgetary control; special-purpose reports; differential cost analyses.

307 Distribution Costs (3)

Prerequisites: Accounting 201B and Marketing 351. The development of quantitative measures for marketing activity; costs of distributing through different channels of distribution, advertising vs. personal selling, and movement activities; development of sales budgets, standard costs, and the analysis of actual performance in the light of budgets and standards.

308 Federal Income Tax (3)

Prerequisite: Accounting 201B. Basic provisions, legislative history and implications of the federal income tax with emphasis on the individual taxpayer.

401 Advanced Accounting (3)

Prerequisite: Accounting 301B. Current principles and practices of business combinations; meaning, usefulness and methodology of consolidated financial statements; investments in nonsubsidiary affiliates and corporate joint ventures; consolidated financial statements for overseas units of U.S.-based multinational companies; translations of foreign currencies.

402 Auditing (3)

Prerequisites: Accounting 301B and 302. The auditing standards and procedures used by the independent auditor (CPA) to provide basic preparation for the auditing section of the CPA Examination. Major topic areas: evaluation of internal control; nature of and procedures for gathering audit evidence; professional responsibilities and legal liability; the standards of reporting financial information.

403 Accounting for Governmental and Nonprofit Entities (3)

Prerequisite: Accounting 201B or 511. Concepts of fund accounting as applied to governmental and nonprofit entities; particularly state and federal governments, municipalities, hospitals, and

universities. Budgets, tax levies, revenues and appropriations, expenditures and encumbrances, various types of funds, and accounting statements.

406 Advanced Management Accounting (3)

Prerequisite: Accounting 302. A study of current problems in management accounting; theory of cost allocation; behavioral aspects of management accounting; quantitative model applications; planning and control of production, distribution, and administrative expenses; and analysis of governmental cost accounting standards.

407 Accounting Information Systems (3)

Prerequisites: Accounting 301A and 302 and QM 265 or equivalent. Alternative accounting systems used for the collection, organization and presentation of information. Balanced emphasis on theory and practice, with coverage of different aspects of information processing including organizational, behavioral, and mechanical.

408 Problems in Taxation (3)

Prerequisite: Accounting 308. Federal income tax as it applies to corporations, partnerships, fiduciaries, international operations, securities and fringe benefits including retirement plans, federal estate and gift taxes as they apply to taxable transfers.

470 Tax Research, Practice and Procedures (3)

Prerequisite: Accounting 308. The methodology of tax research including case studies; the management of a tax practice; administration procedures governing tax controversies; rights and obligations of taxpayers and tax practitioners.

499 Independent Study (1–3)

Prerequisites: senior standing and approval by department chair. Open to qualified undergraduate students desiring to pursue directed independent inquiry. May be repeated for credit.

502 Seminar in Accounting Theory (3)

Prerequisites: Accounting 301B, classified M.B.A. status and consent of instructor. The concepts and theory of accounting; the effects of professional, governmental, business, and social forces on the evolution of accounting theory.

503 Seminar in Contemporary Financial Accounting Problems (3)

Prerequisites: Accounting 502 and classified M.B.A. status and consent of instructor. A critical examination of the current problems and areas of controversy in financial accounting.

504 Seminar in Contemporary Managerial Accounting Problems (3)

Prerequisites: Accounting 511 or 302, classified M.B.A. status and consent of instructor. A critical examination of the current problems and areas of controversy in managerial accounting.

505 Seminar in Auditing (3)

Prerequisites: Accounting 402 and classified M.B.A. status. Auditing theory and practices; professional ethics; auditing standards; SEC and stock exchange regulations; auditor's legal liability; statement trends and techniques.

507 Seminar in Accounting Information Systems (3)

Prerequisites: Accounting 407 or equivalent, and classified M.B.A. status. Case studies of large scale accounting systems used by organizations such as universities, banks, and industrial corporations. Applications of conceptual knowledge of system components and controls learned previously to actual operating systems.

508 Seminar in Tax Planning (3)

Prerequisites: Accounting 308 and classified M.B.A. status, or consent of instructor. A review of substantive provisions of federal tax law with an emphasis on tax planning from a corporate viewpoint; case studies of the effect of federal tax law on business decisions.

510 Financial Accounting (3)

Prerequisite: classified M.B.A. status. The basic fundamentals of accounting as they apply to the accumulation, organization, and interpretation of financial and quantitative data relevant to the activities of the corporate business enterprise. The interaction of accounting with the areas of finance, interpersonal relations, motivation, and data-information systems.

511 Seminar in Managerial Accounting (3)

Prerequisites: Accounting 201B or 510, consent of instructor and classified M.B.A. status. Accounting information for management decisions; elements of manufacturing, distribution and service costs; cost systems; standard costs; cost reports; cost analysis.

518 Seminar in International Accounting (3)

Prerequisites: Accounting 201 B or 511 and classified M.B.A. status. Comparative analysis of accounting principles and practices outside the United States; international financial accounting stand-

ards; current problems of international financial reporting, accounting planning and control for international operations with emphasis upon multinational companies.

521 Seminar in Administrative Accounting (3)

Prerequisites: Accounting 302 or 304 or 511; classified M.B.A. status and consent of instructor. Integrative aspects of accounting, financial, and quantitative data for managerial decision-making; long-term, short-term profit planning; budgetary control; cost analysis; financial analysis and planning; taxation; and transfer pricing.

572 Seminar in Taxation of Corporations and Shareholders (3)

Prerequisite: Accounting 308 and classified M.B.A. status, or consent of instructor. Federal taxation relating to corporations with emphasis on the areas of organizing distributions, liquidations and reorganizations.

575 Seminar in Estate, Gift, Inheritance Taxes and Estate Planning (3)

Prerequisite: Accounting 308 and classified M.B.A. status, or consent of instructor. Federal and California death taxes and the planning of personal estates.

578 Seminar in Taxation of Special Entities (3)

Prerequisite: Accounting 308 and classified M.B.A. status, or consent of instructor. Federal taxation relating to partnerships, estates, trusts and other special entities.

597 Project (3)

Prerequisite: classified M.B.A. status. Directed independent inquiry.

599 Independent Graduate Research (1–3)

Prerequisites: classified M.B.A. status, consent of instructor, and approval by department chair. May be repeated for credit.

BUSINESS ADMINISTRATION COURSES

495 Internship Experience (1–3)

Prerequisites: junior standing, academic qualification and consent of the internship adviser. Provides planned and supervised work experience in business, industry and public agencies, extending the student's learning experience beyond the classroom. Number of units granted is determined by number of hours worked per week. Credit/no credit up to a maximum of six units.

497 Business and Economic Research (3)

Prerequisites: business administration core, senior standing and consent of instructor. Application of research methods; selection and identification of a problem, determining a method of approach, collection and analysis of relevant data, eliciting conclusions and solutions.

596 M.B.A. Management Game (3)

Prerequisite: classified M.B.A. status and within six units of completion of the M.B.A. study plan. This course serves as the required terminal evaluation for M.B.A. candidates. An integrated approach to policy decisions using the principles and practices of the several disciplines in the M.B.A. program. Students form teams, plan and execute strategies and analyze the impacts of their decisions under uncertainty.

ECONOMICS COURSES

100 The Economic Environment (3)

An introduction to economics with application to problems such as unemployment, poverty, discrimination, inflation, gold and foreign exchange, pollution, urban decay, defense, war, and industrialization.

111 Economics of Utopia (3)

An economic analysis of utopian thought and attempts to create ideal economic systems. Emphasis is placed on the importance of economic structure and environment to the performance of utopian experiments.

120 Economics Through Classic Films and Documentaries (3)

A course centered about an integrated series of classic films and documentaries, such as *Grapes of Wrath* and *Hunger in America*. Students will develop a germinal appreciation and understanding of economics—concepts, institutions, issues—through the film medium.

200 Principles of Economics (3)
Prerequisite: Economics 100. A survey of basic economic theory. Includes the central problem of allocating resources, the distribution of income, unemployment, inflation, the role of markets and public policies solving these problems, and relevant international applications.

210 Principles of Economics (5)
Prerequisite: open only to junior transfers. (Duplicates 100 and 200.) An introduction to the principles of economic analysis and policy including the central problem of scarcity, basic economic institutions of the United States, resource allocation and income distribution, economic stability and growth, and the role of public policy.

301 Economic Principles (3)
Prerequisites: Math 150A,B and QM 265 or equivalents. An introduction to economic principles for students who have a strong quantitative background, and who have a special interest in the technical areas of engineering and computer science. Not open to students majoring in business administration or economics.

310 Intermediate Microeconomic Analysis (3)
Prerequisite: Economics 100 and 200 or 210. An analysis and evaluation of (1) rational decision-making behavior of consumers and firms and (2) price and output determination in markets; special emphasis is placed on the use of cases and problems to illustrate the application of the analysis to the contemporary scene.

320 Intermediate Macroeconomic Analysis (3)
Prerequisites: Economics 100 and 200 or 210. The explanation and evaluation of the determinants of the level and fluctuations of such economic aggregates as national income and employment, with stress placed on the use of problems involving the application of analytical tools to modern macroeconomic issues.

330 Comparative Economic Systems (3)
Prerequisite: Economics 200 or 210 or 100 plus consent of instructor. A study of alternative economic systems with regard to their theoretical foundations, actual economic institutions, and achievements and failures. The contrast between socialist and capitalist systems will be emphasized.

331 The Soviet Economy (3)
Prerequisite: Economics 200 or 210. An analytical evaluation of Soviet economic development including the structure and performance of the Soviet economy and problems of planning and control.

332 Economic Problems of Asia (3)
Prerequisite: Economics 100 or 210. Analysis of the natural resources, population, agricultural, industrial, transportation, communications, monetary, banking, etc. problems of Asia, i.e. China, Japan, etc., and the Asian subcontinent. The relations of non-economic problems to the economic are considered in detail.

333 Economic Development: Analysis and Case Studies (3)
Prerequisite: Economics 100 or 210. An examination of the processes of economic growth with special references to developing areas. Considers capital formation, resource allocation, relation to the world economy, economic planning and institutional factors, with appropriate case studies.

334 Economics of Poverty, Race and Discrimination (3)
Prerequisite: Economics 100 or 210. An economic analysis of the problems and policies dealing with poverty, race and discrimination. A field investigation or project is required of each student.

350 American Economic History (3)
Prerequisite: Economics 100 or 210. The development of American economic institutions with special emphasis on economic problems, economic growth, and economic welfare.

351 European Economic History (3)
Prerequisite: Economics 100 or 210. The evolution of European economic institutions and their relation to the development of industry, commerce, transportation, and finance in the principal European countries.

361 Urban Economics (3)
Prerequisite: Economics 100 or 210. Theory and analysis of the urban economy, urban economic problems and policy.

364 Benefit-Cost Analysis (3)
Prerequisite: Economics 100 or consent of instructor. Evaluation of benefit-cost studies prepared for government programs, with emphasis on educational and water resources. Methods of estimat-

ing environmental, cultural, life-saving, and macroeconomic benefits and costs, including handling future benefits and costs. Considers questions such as: Does benefit-cost analysis have much impact on government decisions? Is benefit-cost analysis worth its cost?

365 Public Finance (3)

Prerequisite: Economics 200 or 210. A study of government finance at the federal, state, and local levels with particular reference to the impact of taxation and spending on resource allocation, income distribution, stabilization and growth.

370 Economics of Research, Development and Technological Change (3)

Prerequisite: Economics 100 or 210. Examination of the importance of R&D and technological change in the economy; concepts, issues, and major figures in the study of the economics of technology; analytical techniques for the assessment of technological change; and evaluation of the impacts of technological change.

391 The Modernization of Russian Society, 1880–1939 (3)

Prerequisites: Economics 100 or 210. An interdisciplinary seminar on the historical, political, cultural and economic forces promoting and impeding modernization under both the Tsarist and Communist regimes. Course is team taught by instructors from the Economics Department and the History Department.

410 Government and Business (3)

Prerequisite: Economics 310. An economic study of business organization, conduct and performance followed by an analysis of the rationale and impact of public policy on various segments of business and business activities, including the regulated industries, sick industries and antitrust policy. (Offered in Spring semester only.)

411 International Trade (3)

Prerequisite: Economics 310. An examination of the theory of international trade and the means and significance of balance of payments adjustments, with an analysis of past and present developments in international, commercial and monetary policy.

412 Labor Economics (3)

Prerequisite: Economics 310. An empirical, theoretical and institututional examination of labor supply and demand, labor force participation, employment, unemployment, human capital, wage differentials, disadvantaged labor market groups, discrimination and wage-related income transfers.

420 Money and Banking (3)

Prerequisite: Economics 320. A study of the money supply process and the impact of monetary policy on economic activity.

421 Monetary and Fiscal Policy (3)

Prerequisite: Economics 320. A study of the techniques of monetary and fiscal policy and an appraisal of their relative roles in promoting economic stability and growth.

440 Introduction to Econometrics (3)

Prerequisites: Economics 200 or 210 or 301 *and* QM 361 or equivalent. Development of advanced statistical methods and their application in economic research. Advanced concepts in model building; development of different types of economic models. The use and effect of economic models in public policy.

441 Introduction to Mathematical Economics (3)

Prerequisites: Economics 200 or 210 or 301 *and* Math 130 or equivalent. Selected topics in economic theory, drawn from microeconomics and macroeconomics. Content varying from year to year but with emphasis on constrained optimization problems and rational decision-making.

450 History of Economic Thought (3)

Prerequisites: Economics 310 or 320. A study of the development of economic thought as reflected in the evolution of major schools of thought and of leading individual economists as they influenced economic thought and policy.

499 Independent Study (1-3)

Prerequisites: Economics major or concentration, senior standing and approval by the department chair. Open to qualified undergraduate students desiring to pursue directed independent inquiry. May be repeated for credit.

502 Advanced Microeconomic Analysis (3)

Prerequisites: Economics 310 and classified status in the M.A. in Economics program or consent of instructor. An advanced theoretical formulation of the principles of the determination of prices and outputs of goods and productive services in a market system. Topics include: consumer choice, demand, production, cost, the equilibrium of the firm and the market, and distribution.

503 Advanced Macroeconomic Analysis (3)
Prerequisites: Economics 320; and classified status in the M.A. in Economics program or consent of instructor. Advanced theory of the determination of employment, fluctuations of real and money income, and the forces underlying economic growth.

505 Models and Forecasting (3)
Prerequisites: Economics 440 or consent of instructor, and classified status in the M.A. in Economics program. Applications of statistical and econometric techniques in economic problems. Emphasis is on practical problems in empirical research. Topics include model construction, regression and correlation analysis, and methods of economic forecasting for firms, regional areas, and the national economy.

506 Seminar in Economic Analysis (3)
Prerequisites: Economics 502, 503 and 505; classified status in the M.A. in Economics program or consent of instructor. Students select approved topics and via independent investigation, seminar presentation and critique develop their analytical and research abilities, culminating with an acceptable paper.

514 Principles and Problems of Economic Policy—Part A (3)
Prerequisite: Classified M.B.A. status. An intensive study of micro- and macroeconomic theory and policy within the framework of a market system. (Not open to Economics M.A. candidates.)

515 Principles and Problems of Economic Policy—Part B (3)
Prerequisites: Economics 514 and classified M.B.A. status. An integration of modern microeconomic theory, optimization techniques, and microeconomic policy. Topics include: mathematical programming, consumer choice, production theory, firm and market equilibrium, and government regulation. (Not open to Economics M.A. candidates.)

516 Economics and Benefit-Cost Analysis (3)
Prerequisites: classified status in the M.P.A., M.B.A. or the environmental studies M.A. programs. Elementary economics and benefit-cost analysis of public projects. Consumer demand and the estimation of benefits; the nature of cost and its estimation in a market economy; adjustments for price controls, unemployment and inflation; and criteria for choice, especially for multi-year projects. For elective credit in the M.P.A., M.B.A., or the environmental studies M.A. programs.

522 Comparative Economics Seminar (3)
Prerequisites: Economics 514 and 515 and classified M.B.A. status. A comparative study of various analytical and prescriptive approaches to economic problems of scarcity, development, fiscal and monetary policy, planning and poverty. (Not open to Economics M.A. candidates.)

528 Seminar in International Economics (3)
Prerequisites: Economics 514 or equivalent, consent of instructor or classified M.B.A. status. A systematic survey of international monetary and international trade theories and policies. Includes analyses of international monetary reform, barriers to trade, economic integration, economic development and international capital flows.

596 Selected Topics in Economic Analysis and Policy (3)
Prerequisites: Economics 502 and 503 (may be taken concurrently); classified status in the M.A. in Economics program or consent of instructor. Seminar: Selected topics in economic analysis and policy will be covered in depth, with special emphasis on contemporary research and materials. Recent offerings have included: resource economics; history of economic thought; international monetary systems; economic forecasting; economics of planning; advanced topics in macroeconomics; human resource economics. May be repeated for credit.

597 Project (3)
Open to qualified graduate students. Directed independent inquiry.

599 Independent Graduate Research (1-3)
Prerequisites: graduate standing, consent of instructor and approval by department chair. Open to qualified graduate students desiring to pursue independent inquiry. May be repeated for credit.

FINANCE COURSES

310 Personal Financial Management (3)
Financial problems of the household in allocating resources and planning expenditures. Consideration of housing, insurance, installment buying, medical care, savings and investments. (May not be used to fulfill the area of concentration requirement in finance.)

320 Business Finance (3)
Prerequisite: Accounting 201B. Financing business enterprises; financial planning and control; analysis of alternative sources and uses of combinations of short-, intermediate- and long-term debt and equity. Cost of capital. Study of capital investment decisions; capital budget analysis and valuation; working capital and capital structure management; relative impact on the international environment of financial decisions.

331 Financial Analysis (3)
Prerequisite: Finance 320. Development of techniques for internal financial control and their application to business situations. Capital costs and optimal capital investment decisions. Budgets and forecasts for projection of long-term profitable operations. Analysis of current financial models. Group problems and case studies.

332 Financial Administration (3)
Prerequisite: Finance 320. Cost of cash, accounts receivable and inventories of each asset. Sources of short-term funds and interchange of alternative short-term liabilities as a means of controlling costs. Cash flow analysis, funds flow analysis.

340 Security Investments (3)
Prerequisites: Finance 320 and QM 265 or consent of instructor. Principles underlying the analysis, selection and management of securities; characteristics of securities, valuation, trading methods, role of mutual funds and other institutions; computerized statement analysis and portfolio selection methods; a computer securities game is played by members of the class.

351 Real Estate and Urban Land Analysis (3)
Prerequisite: Finance 320 or consent of instructor. Real estate investment decision-making and the implementation of those decisions in an urban environment. The urban setting; valuation; equity investment; legal aspects; real estate market analysis; property development; real estate administration in the public sector.

360 Principles of Insurance (3)
Principles of life, casualty and liability insurance, individual and group insurance programs; methods of establishing risks and rates.

370 International Business Finance (3)
Prerequisite: Finance 320 or consent of instructor. Financing problems of international business. Topics include the international financial environment, taxation of foreign income, international capital and money markets, problems of risk in foreign investments, and financial techniques for the operation of a multinational firm.

425 Commercial Bank and Financial Institution Management (3)
Prerequisite: Finance 331. Application of analytical techniques to the solution of financial institution problems. Major financial intermediaries and the broad range of decision-making problems they face. Regulation and its effect on management operations. Group problems and case studies.

432 Financial Forecasting and Capital Budgeting (3)
Prerequisite: Finance 320. Role of forecasting in financial management; construction and interpretation of economic forecasts for the economy, industry, and the firm; construction and interpretation of financial plans; evaluation of capital acquisition decisions under certainty and uncertainty conditions.

433 Problems in Business Finance (3)
Prerequisite: Finance 331. Comprehensive case studies including group problems of estimating funds requirements, long-term financial planning, controlling and evaluating cash flows, and financing acquisitions and mergers. Group problems and case studies.

440 Capital and Money Markets (3)
Prerequisite: Finance 320. Role of capital and money markets in the American economy; markets for new corporate and government issues; secondary markets; interrelation of financial institutions; factors influencing yields and security prices.

442 Security Analysis and Portfolio Management (3)
Prerequisite: Finance 340 or consent of instructor. Advanced securities analysis course utilizing computer applications for statement analysis, valuation models, and portfolio selection and management models. The data base utilizes Standard and Poor's "compustat tapes." A simulated portfolio management game is played at the end of the course.

443 Portfolio Analysis (3)
Finance 340 and QM 361. Markowitz and Sharpe models; basic statistical, mathematical and economic concepts used in portfolio theory; the theory of efficient capital markets; applications of

portfolio theory to assets other than securities; portfolio revisions; survey of recent developments in the field; computer applications.

452 Real Estate Finance (3)

Prerequisite: Finance 350* or 351 or consent of instructor. Sources and uses of capital in financing real estate transactions. Financial institutions and their effect on credit. Money and capital market conditions and their effect on credit availability and cost. Instruments of real estate finance. Real estate as an investment medium. Group problems and case studies.

453 Real Estate Valuation (3)

Prerequisite: Finance 350* or 351 or consent of instructor. Theory of real property value, historical development; methods used in urban and rural property appraisals; special-purpose appraisals. Group problems; laboratory work as determined by computer terminal availability.

454 Real Estate and Urban Development (3)

Prerequisite: Finance 350* or 351. Factors and influences of urban growth and development. Economic factors as they relate to real estate supply and demand. Location theory and urban growth patterns. Real estate markets.

455 Real Estate Investment Analysis (3)

Prerequisite: Finance 350* or 351. Application of analytical techniques used in evaluating real estate investments. Topics include: tax aspects, measurement of investment returns, application of computer models. Lecture, discussion and case analysis of major types of investments—raw land, apartment houses, office buildings, shopping centers, etc.

456 Property Development and Real Estate Policy Analysis (3)

Prerequisite: Finance 350* or 351. The problems of administration and policy formulation encountered in the property development process—from raw land to productive use. Policy formulation and implementation; models for urban analysis; project feasibility analysis; application of computer models for the financial analysis of property development; case studies for various types of land uses.

457 Case Studies in Real Estate/Land Use Law (3)

Prerequisite: Finance 350* or 351. Real estate law through the use of cases to provide illustrative examples of specific legal situations. Such cases will cover financial institutions, property rights, zoning, and environmental impact requirement.

459 Real Estate Research (3)

Prerequisites: Finance 350* or 351 and 452 or 453. Group problems, laboratory work as determined by computer terminal availability.

461 Risk Management (3)

Prerequisite: Finance 360 or consent of instructor. Techniques and structures of risk management; risk planning, control and financing in the business enterprise.

462 Life and Health Insurance (3)

Prerequisite: Finance 360 or consent of instructor. Life and health insurance coverages, both individual and group policies, and the operation of insurance companies. Subjects include business and estate planning, pension plans, and government benefits.

499 Independent Study (1–3)

Prerequisites: senior standing and approval by department chair. Open to qualified undergraduate students desiring to pursue directed independent inquiry. May be repeated for credit.

517 Managerial Finance (3)

Prerequisites: Accounting 510 and classified M.B.A. status. The methodology of financial management including the primary tools for financial analysis, long-term investment decisions, valuation and working capital management.

523 Seminar in Corporate Financial Management (3)

Prerequisites: Finance 517 and classified M.B.A. status. Emphasis in this course is on the analysis of the financial decision-making process through case studies and seminar presentations. Current financial theory and models are utilized.

533 Seminar in Financial Administration (3)

Prerequisites: Finance 523 and classified M.B.A. status. Optimal financing and asset administration; advanced techniques of capital budgeting; application of analytical methods to the administration of the finance function of the business firm.

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* Finance 350, Principles and Practices of Real Estate, is no longer offered.

540 Seminar in Financial Markets (3)
Prerequisites: Finance 440 or consent of instructor and classified M.B.A. status. Structure and operation of major financial institutions; portfolio composition, price-cost problems, and market behavior; analysis of financial intermediation and interrelation of financial institutions and markets.

541 Seminar in Investment Management (3)
Prerequisites: Finance 442 or consent of instructor and classified M.B.A. status. Problems of investment and portfolio management; concepts of risk evaluation and investment criteria; analysis of interest rate movements; investment valuation and timing; regulation and administrative problems of the industry.

551 Seminar in Real Estate Investment (3)
Prerequisites: Finance 320, 350† or 351 or equivalent and classified M.B.A. status. Problems of real estate investment; concepts of evaluation and investment criteria; analysis of real property values; real estate development and financing.

570 Seminar in International Financial Management (3)
Prerequisites: Finance 517 or consent of instructor and classified M.B.A. status. Focus on the financial problems of the multinational firm. Included are international financing instruments, capital investment decisions, and constraints on the profitability of multinational businesses.

597 Project (3)
Prerequisite: classified M.B.A. status. Directed independent inquiry.

599 Independent Graduate Research (1–3)
Prerequisites: classified M.B.A. status, consent of instructor and approval by department chair. May be repeated for credit.

MANAGEMENT COURSES

244 Introduction to Systems Concepts (3)
The basic functions of goal-seeking organizations, basic systems concepts in business and society, and the systems approach to problem solving.

246 Business Law (3)
Philosophy, institutions and role of law in business and society, with emphasis on functions of courts and attorneys, case studies in areas of contracts, and on the law relating to sale of goods.

339 Principles of Management (3) (Formerly Management 341)
Prerequisites: All lower division business courses or instructor's consent. Administrative processes in utility-creating business operations, including: decision-making; planning; controlling; organizing; staffing; supporting business information systems; measuring and improving effectiveness; production processes, production operations and institutions in American and worldwide business. Uses the Behavioral Lab.

340 Behavioral Science for Business (3)
Prerequisites: general education in social sciences, and a passing score on the English Proficiency Examination. Study of social and cultural environments of business. Communication, leadership, motivation, perception, personality development, group dynamics and group growth. Covers fundamental aspects of human behavior with implications for organizational design and management practice in American and world-wide business. Uses the Behavioral Lab.

342 Production Operations (3)
Prerequisites: Management 339 * and QM 265. Fundamentals of production systems which combine materials, labor, and capital resources to produce goods or services. Analysis of systems, models and methods for management of production operations. Product and process development. Case studies stress utilization of computer decision models. Uses the Production Lab.

343 Personnel Management (3)
Prerequisite: Management 339 * or consent of instructor. A study of the personnel function, its activities, and its opportunities. Emphasis upon management's responsibilities for selection, development and effective utilization of personnel. Open to non-business majors.

347 Business Law (3)
Prerequisite: Management 246 or equivalent. Philosophy, institutions and role of law in business

† Finance 350, Principles and Practices of Real Estate, is no longer offered.
* Formerly Management 341

relationships, with emphasis on case studies in areas of agency, partnerships, corporations, bankruptcy, unfair competition and trade regulation.

348 Business Law (3)

Prerequisite: Management 246 or equivalent. The philosophy, institutions and role of law in commercial and personal transactions, with emphasis upon case studies in the areas of personal property, bailments, commercial paper, secured transactions, real property, mortgages, trusts, community property, wills, estate administration and insurance.

441 Labor-Management Relations (3)

Prerequisite: Management 339 *. Impact of labor-management relations upon labor, management, and the public. Proper grievance procedure, collective bargaining and settlement of disputes are among subjects examined. Uses the Behavioral Lab.

442 Collective Bargaining and Labor Legislation (3)

Prerequisite: Management 441. Study of effects of federal and state legislation on union and nonunion environments in both private and public sectors. Practicum in collective bargaining procedures. Case studies of recent successful and unsuccessful labor negotiations. Uses the Behavioral Lab.

443 Individual, Interpersonal and Group Dynamics for Management (3)

Prerequisites: Management 339,* 340 or consent of instructor. Case studies and current literature on human problems of work situations. Focuses on developing self-knowledge; manager motivation; communicator strengths; improving interaction skills; and improving interaction processes in groups. Laboratory work offers practical approach; uses the Behavioral Lab. (2 hours lecture, 3 hours laboratory)

444 Management of Systems (3)

Prerequisites: QM core and other 300 level management courses in student's program. Technology for managing business and other enterprises as cybernetic systems. Investigates the design and control of systems appropriate for product, project and program levels of analysis. (2 hours lecture, 2 hours laboratory)

445 Advanced Production Operations (3)

Prerequisites: Management 342 and QM core. Planning and control methodologies for production operations. Quantitative approaches which integrate cost, schedule and technical performance criteria. Collection, evaluation and use of real-time information. Individual and group projects synthesize control systems for actual cases. Uses the Production Lab.

446 Managerial Economics (3)

Prerequisites: QM core, Economics 310 and Management 339 *. A study of relationships of management tools to applied economics and statistics in decision-making process; use of cases and group problems to study the true economic meaning of cost, demand, supply, price, product and competition.

447 Management Decision Games (3)

Prerequisites: business administration core less Management 449, or consent of instructor. A simulation of an oligopolistic industry to provide the student with an opportunity, through group problems, to use statistics and other analytical tools to make managerial decisions in the functional areas of management. (2 hours lecture; 2 hours activity)

448 Seminar in Small Business Consulting (3)

Prerequisites: Accounting 201B, Management 339 *, Marketing 351, and senior standing. A seminar in which students use their theoretical knowledge and past experience in planning and working in a consulting relationship with small local businesses. Lectures, research and field work by small groups. (1 hour lecture, 6 hours fieldwork)

449 Seminar in Business Policies (3)

Prerequisites: all other School of Business Administration and Economics core courses and departmental approval. Through analyzing integrative cases from top management viewpoint, students use business and liberal arts training, especially knowledge of business operations, administrative processes, ethical-legal-economic implications of business decisions, international applications; organization theory, and policy formulation. Individual and team efforts. Uses the Behavioral Lab.

450 An Information System for Production and Operations Management: Material Requirements Planning (3)

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* Formerly Management 341

Prerequisites: Management 445, or Management 342 with consent of the instructor. The conceptual foundations, logic, design, and use of computerized production and distribution planning and information systems. Material Requirements Planning (MRP), forecasting, the master schedule, product structure, and time-phased inventory management. Uses the Production Lab.

494 Seminar in Management Information Systems (3)

Prerequisites: 300-level business core courses, 300-level requirements for concentration in management information systems and Management 444. Senior seminar and practical applications in the design, implementation and use of management decision/information systems.

499 Independent Study (1–3)

Prerequisites: management concentration, senior standing, and approval by faculty sponsor and department chair of proposed statement of work. Open to qualified undergraduate students desiring to pursue directed independent inquiry. May be repeated for credit.

516 Organizational Theory and Management of Operations (3)

Prerequisites: classified M.B.A. status, Accounting 510, Economics 514 and Quantitative Methods 512. Modern organization theory and application in utility-creating operations. Interpersonal behavior, planning, control, organizing, directing, communication production and information systems, and measures of effectiveness are explored. Business ethics and relationships to society and politics are examined. Graduate discussion and research reports.

518 Legal Environment of Business (3)

Prerequisites: classified M.B.A. status and Accounting 510. Philosophy, institutions and role of law in business, with emphasis upon legal implications inherent in business decisions and upon case studies in areas of contracts, sale of goods, agency, partnerships and corporations.

524 Seminar in Organizational Behavior and Administration (3)

Prerequisites: classified M.B.A. status, Management 516 and 518 or equivalent. Analysis of human behavior in organization, studies in organizational theories, and administrative action.

541 Seminar in Project Operations Problem Solving (3)

Prerequisites: classified M.B.A. status, Management 516 and 518, or equivalent. A seminar designed to focus attention on application of system analysis and other dynamic techniques to current operations problems. Special projects are used to demonstrate application of concepts.

542 Seminar in Labor Relations (3)

Prerequisites: classified M.B.A. status, Management 516 and 518, or equivalent. Theories and philosophies of union-management relations in modern industrial society with attention to trends in nonindustrial organizations. Issues in collective bargaining, contract administration, labor law, and government regulation. Discussion and analysis of literature.

543 Seminar in Personnel Administration (3)

Prerequisites: classified M.B.A. status, Management 516 and 518, or equivalent. Provides graduate students with opportunities to study cases, problems, and significant personnel administration literature in order to develop a comprehensive understanding of personnel administration and human relations.

548 Seminar in International Management (3)

Prerequisites: classified M.B.A. status, Management 516 and 518, or equivalent. Problems in managerial qualifications and training, political structure within and without the operations, foreign receptivity to United States business, organization and controlling the international firm. Management in selected countries is examined.

549 Seminar in Policy Planning and Administration (3)

Prerequisites: classified M.B.A. status, Management 516 and 518, or equivalent. Planning, implementing and controlling policy strategies to achieve objectives are considered. Executive's role in overall enterprise operations and the firm's resource use are examined and supported by cases, literature and training techniques.

597 Project (3)

Prerequisite: classified M.B.A. status. Directed independent project. Student will select and have approved a project proposal, conduct the project, and prepare a formal analysis and report.

599 Independent Graduate Research (1–3)

Prerequisites: classified M.B.A. status, consent of instructor and consent of department chair. May be repeated for credit.

MARKETING COURSES

351 Principles of Marketing (3)
Prerequisite: Economics 200. Analysis of how management markets output of the enterprise and obtains revenue. Covers product management, pricing, promotion, distribution channels. Marketing's role in socioeconomic system is examined from viewpoints of consumer, management and government in American and worldwide business.

352 Principles of Retailing (3)
Prerequisite: Marketing 351. Structure, scope, and evolution of retail institutions; introduction to retail merchandise management and pricing; dimensions of retail competition: identifying markets, defining the retail mix and positioning the mix components to convey meaning to target customers.

353 Marketing Administration (3)
Prerequisite: Marketing 351. Major problems facing the marketing executive, including marketing organization, planning, and forecasting, market analysis, budgeting, product policy, pricing, advertising and sales promotion, administration of the sales force.

354 Principles of Advertising (3)
Prerequisite: Marketing 351. The management of the advertising function, including the role of advertising in marketing strategy, budgetary considerations, allocation among media, measurement of effectiveness, administration and control, and its economic and social implications. Uses the Behavioral Lab.

355 Credit and Credit Administration (3)
Prerequisite: Marketing 351. The general nature and functions of credit, credit instruments; the management of the credit department; sources of credit information; acceptance of credit risk; establishment of credit limits; and the problem of collections.

356 Creative Motivation in Marketing (3)
Prerequisite: Marketing 351. Salesmanship, in the very broad context, is persuading people to do what you want them to do. A fundamental managerial skill. Relevant principles of behavior are applied to the persuasion process. Uses the Behavioral Lab.

357 Industrial Purchasing (3)
Prerequisite: Marketing 351. The principles and practices of purchasing for industrial organizations. Major buying policies, sources of materials, quantity and quality considerations, and the relation to production cost.

358 Physical Distribution (3)
Prerequisites: Marketing 351 and QM 265. Introduction to the physical distribution system and its elements—packaging, transportation, warehousing and inventory management. Analysis of physical distribution practices and problems leading to improved system design and effectiveness.

359 Industrial Marketing (3)
Prerequisite: Marketing 351. Marketing of business goods and services to other businesses, government agencies, and social institutions from the standpoint of a manufacturer. Topics include market analysis, sales forecasting, product strategy, effective use of sales force, and industrial advertising media.

379 Marketing Research Methods (3)
Prerequisites: Marketing 351 and QM 361. Introduction to marketing research process: problem formulation, identifying data sources, selecting data collection and analysis techniques, preparing research reports. Emphasis placed upon selecting marketing problems for research. Lecture-discussion, cases. (3 hours lecture, 1 hour activity).

451 Management of Physical Distribution Operations (3)
Prerequisites: Marketing 358, Finance 320, QM 361 and 362 (or consent of instructor). Builds on the material and techniques introduced in Marketing 358. Addresses the problems involved in physical distribution operations management. Uses a "case" or "situation" approach to simulate a "real world" problem context.

453 Marketing to the Government (3)
Prerequisite: Marketing 351. The marketing of defense and nondefense products to the government. The nature and administration of contractual agreements with government agencies.

454 Advertising Management (3)
Prerequisite: Marketing 354. Examines the interrelationships of product planning, advertising management, sales management, financial management and corporate strategy in a competitive environment.

455 Management of the Sales Force (3)

Prerequisite: Marketing 351. Examines the job of the sales manager in such areas as organization; recruiting and selecting salesmen; sales training; formulating compensation and expense plans; supervising and stimulating sales activities; morale; sales planning; evaluating salesmen; and distribution cost analysis. Uses the Behavioral Lab.

456 Marketing Problems in Retail Sector (3)

Prerequisite: Marketing 352. Merchandise management, planning and control; market structures, entrepreneurial function and competitive strategies (price and non-price competition); the dynamic consumer goods segment and correlates of store patronage: socioeconomic implications, psychographics, changing life styles, and product risk; atmospherics fashion perspectives; and emerging trends in the retail sector—a macroeconomic view.

457 Quantitative Marketing Analysis (3)

Prerequisites: Marketing 351, QM 361 or consent of instructor. Develops the use of analytical tools and techniques as support for such marketing-management functions as planning, scheduling, evaluating, control. Emphasizes the analysis of marketing processes and systems and the development of appropriate action recommendations.

458 International Marketing (3)

Prerequisites: Marketing 351 and senior standing. Presents analytical framework for studying development of domestic marketing systems. Marketing problems arising across national boundaries and within national markets will be analyzed. Emphasis is given U.S. firms involved in international marketing operations.

459 Marketing Problems (3)

Prerequisites: senior standing, two advanced marketing courses. Analysis and evaluation of marketing problems of both the firm and society. Emphasis placed upon integrative interactions between marketing activities and the interfaces of marketing with finance and production. Case method and current readings.

470 Consumer Behavior (3)

Prerequisite: Marketing 351. An investigation of consumer buying patterns, motivation and search behavior. Emphasis on the consumer decision-making process. Interdisciplinary study of the consumer based on concepts from economics, sociology, psychology, cultural anthropology and mass communications. Uses the Behavioral Lab.

479 Research Problems in Marketing (3)

Prerequisite: Marketing 379. Marketing research practicum. Emphasis on matching research methodologies to problems of market analysis, product planning, advertising, sales forecasting and other marketing activities. Alternative data collection and analysis techniques explored. Seminars, research projects. (3 hours lecture, 1 hour activity)

499 Independent Study (1-3)

Prerequisites: marketing concentration, senior standing, and approval by the department chair. Open to qualified undergraduate students desiring to pursue directed independent inquiry. May be repeated for credit.

519 Marketing Management (3)

Prerequisites: Accounting 510, Economics 514, QM 512, 513, Management 516, 518 (may be taken concurrently) and classified M.B.A. status. A graduate introductory course in marketing management. A contemporary analysis of concepts, principles and techniques used in the administration of the marketing variables. The role of marketing within the context of society and the business firm is explored.

525 Seminar in Marketing Problems (3)

Prerequisites: Marketing 519 and classified M.B.A. status. A managerial approach to major marketing problems facing industry: definition of and organization for marketing task; demand analysis; decisions concerning product, price, promotion, and trade channels. Use of case method and readings on current topics.

552 Seminar in Price Policy (3)

Prerequisites: Marketing 525 and classified M.B.A. status. Critical analysis of pricing problems. Pricing function examined from standpoints of economic theory, management science, business practices, legal constraints, ethical considerations. Relationship of pricing objectives, policies, strategies, methods market behavior, goals of firm.

553 Seminar in Product Planning (3)
Prerequisites: Marketing 525 and classified M.B.A. status. Designed to assist marketing management in the formulation and execution of marketing plans for new and existing products. Examination of the management decision areas and procedures search, preliminary evaluation, development, testing, commercialization products.

554 Seminar in Promotion (3)
Prerequisites: Marketing 525 and classified M.B.A. status. Critical analysis of the promotion mix as employed by businesses to optimize profitable operations. Particular emphasis given to determination of promotional goals, planning, budgeting, controlling promotional programs, and measuring promotional effectiveness.

556 Seminar in Consumer Behavior (3)
Prerequisites: Marketing 525 and classified M.B.A. status. Design and evaluation of marketing communications programs in consumer and industrial settings based on the critical analysis of buyer decision-making and communications models. Discussion, cases, and projects.

558 Seminar in International Marketing (3)
Prerequisites: Marketing 519 or equivalent and classified M.B.A. status. Includes: comparative international marketing systems; managerial techniques and strategies as they apply to multinational and domestic firms engaged in export; and the impact of political, legal, social, economic and cultural forces upon the decision-making process.

597 Project (3)
Prerequisite: classified M.B.A. status. Directed independent inquiry.

599 Independent Graduate Research (1–3)
Prerequisites: classified M.B.A. status, consent of instructor and approval by department chair. May be repeated for credit.

QUANTITATIVE METHODS COURSES

170 Introduction to Quantitative Methods (3)
Prerequisite: Math 150A or equivalent. For those business majors concentrating in quantitative methods. Emphasizes application of the mathematical tools which the student learns in a first course in calculus and analytic geometry.

264 Computer Programming (2)
Introduction to problem-oriented languages of computers. The solving of problems using computer programming. May be repeated for credit for each separate computer language (with departmental approval).

265 Computer Methods in Business and Economics (3)
Prerequisite: Math 130 or equivalent (may be taken concurrently). Introduction to probability and digital computer methods and their business and economic applications. Includes axioms of probability, frequency distribution, expectation, binomial distribution, and solving business problems on a digital computer with a compiler language.

270 File Concepts and COBOL Programming (3)
Prerequisite: QM 265. Decision tables and flowcharting; elements of COBOL; table handling and subscripting; file organizations and processing: sequential, indexed sequential, direct; sort/merge; documentation; testing and debugging; projects in COBOL.

280 Computer Language Survey (3)
Prerequisite: QM 264 or 265, or equivalent. A study of selected computer languages. Introduction to formal language theory, numerical data processing, string and list processing, formal structure manipulating, recursive routines.

289 Computer Methods in Social Science (3)
An introduction to the history and application of digital computers to problems in the social sciences. Student-written programs in a problem-oriented computer language. Discussion of computers, law and society; artificial intelligence; and other topics of current interest.

300 Elements of Information System Design and Data Communication (3)
Prerequisite: QM 270. Data coding and classification; table searching; randomizing; list processing; structured design; data base and data management systems; operating systems; on-line, multiprogramming, multiprocessing, virtual memory; data communication concepts; data entry; networks, error detection and handling.

361 Statistical Methods in Business and Economics (3)
Prerequisites: QM 265 or equivalent and Math 130. Collection, analysis, and presentation of statistical data. Random sampling, estimation, and hypothesis testing. Introduction to regression and correlation; applications in production quality control and forecasting.

362 Management Science Methods in Business and Economics (3)
Prerequisites: QM 265 or equivalent and Math 130. Concepts of mathematical methods and their application to business and economic problems, e.g., production control, scheduling, inventory control, PERT, and network analysis. Elementary mathematical optimization and production models. Students with a quantitative methods concentration must take QM 363 in lieu of this course.

363 Management Science (3)
Prerequisites: Math 150B or QM 170. Introduction to the basic concepts of management science and its relationship to economics and decision theory. Topics surveyed include optimization in continuous models, linear programming, queueing and inventory models, network analysis and dynamic programming, and production scheduling and control.

404 Analysis of Information Systems (3)
Prerequisite: QM 300. Feasibility study; data compaction; operations systems vs. information systems; tradeoffs between retrieval time and cost; file maintenance and ease of access; cost effectiveness and system optimization; hardware/software selection; case studies and computer projects.

408 Data Base Management Systems (3)
Prerequisite: QM 404. Integrated data base systems; logical organization; data description language (DDL); data manipulation language (DML); data independence; relational data bases; comparative analysis of hierarchical, network, and relational data bases; overview of selected DBMS.

409 Distributed Data Processing (3)
Prerequisite: QM 408 or consent of the instructor. Distributed data processing, current hardware and software developments in transmission technology, distributed data bases, network topology and protocols, tradeoffs among various distributed and centralized processing systems, interface problems and case studies.

411 Data Processing with Minicomputers (3)
Prerequisite: QM 404. The latest minicomputer technology used in data processing, and approaches used in evaluating and designing minicomputer systems as well as guidelines as to how to implement, maintain and support these systems.

412 Privacy, Security and Data Processing (3)
Prerequisite: QM 408 or equivalent. Security and privacy problems associated with the use of computer systems as well as the ways to minimize risks and losses.

420 Applied Statistical Forecasting (3)
Prerequisites: QM 361 or Math 230 and Economics 310 or 320. Statistical methods applied to problems in business and industry; fundamentals of index-number constructions; practical multiple regression models with computer solutions; basic techniques in time-series analysis of trend, cyclical and seasonal components; correlation of time-series and forecasting with the computer.

422 Surveys and Sampling Design and Applications (3)
Prerequisite: QM 361 or Math 230. Principles for designing business and economic surveys. Applications in accounting, marketing research, economic statistics and the social sciences. Basic methods of sampling: simple random, stratified and multistage design; construction of sampling frames; detecting and controlling non-sampling errors.

430 Nonparametric Statistics (3)
Prerequisite: QM 361 or Math 230. The application of nonparametric statistical methods to problems in business and economics. Topics covered include sign tests, rank correlation, contingency tables, order statistics, runs.

448 Digital Simulation in Business and Economics (3)
Prerequisites: QM 361 or QM 461 or Math 435. A study of techniques of generating stochastic variates and their use in solving numerical problems and studying operational problems in queueing, communication, economic, inventory, scheduling and other business models.

461 Advanced Statistics (3)
Prerequisites: QM 170 or Math 150B and QM 361 or Math 335 or Engineering 423. An advanced

treatment of the theory and application of the topics covered in QM 361, using the methods of the calculus. Moments, generating functions, point and interval estimation, Neyman-Pearson and Likelihood Ratio Hypothesis Tests.

464 Information Retrieval (3)

Prerequisite: QM 300 or consent of instructor. An examination of modern computer hardware, the techniques of programming it, and the languages in which such programs are written. Includes discussion of memory protection, interrupt systems, recursive programming, list-structured languages and user-oriented languages.

465 Linear Programming (3)

Prerequisite: consent of instructor. Theory and applications of linear programming. Topics include: problem formulation and solution, simplex method, duality, post-optimality and parametric analyses, techniques for specially structured problems such as upper bounded, transportation, and assignment problems.

466 Integer and Nonlinear Programming (3)

Prerequisites: calculus and consent of instructor. Theory and applications of nonlinear and integer programming. Topics in nonlinear programming include Kuhn-Tucker theorem, computational algorithms, quadratic programming. Topics in integer programming include cutting plane algorithms, branch and bound techniques, special techniques for specially structured problems.

467 Statistical Quality Control (3)

Prerequisite: QM 361 or Math 230. Shewhart Control Charts for variables, percent defective, and defects. Tolerances, process capacity; special control charts, acceptance sampling, and batch processing problems. Bayesian aspects of process control.

468 Design of Experiments (3)

Prerequisite: QM 361 or Engineering 205 and Math 230. The fundamentals of experimental design, including analysis of variance, factorial experiments, nested designs, confounding and factorial replications.

469 Reliability Statistics (3)

Prerequisite: QM 461 or equivalent. Statistical principles of reliability; hazard functions; point and interval estimation of reliability; reliability demonstration; growth models.

470 Conflict, Bargaining and Cooperation (3)

Prerequisite: QM 265, Math 120, or consent of instructor. Analysis of the structure of two-, three- and many-sided conflict, bargaining, and cooperation by means of the theory of games of strategy; structure and utility, domination, negotiability and non-negotiability, cooperation and equilibrium.

471 Dynamic Programming and Network Flows (3)

Prerequisites: calculus and QM 465. Theory and applications for dynamic programming and network flows and their interrelationships. Topics include formulation of sequential decision processes such as cargo-loading, equipment replacement, resource allocation, and scheduling problems; shortest route problem; max. flow/min. cut theorem, generalized network problems.

472 Quantitative Methods in Production and Inventory Control (3)

Prerequisites: calculus, QM 362 or 363 and 361. (s,S) inventory policies, static and dynamic models, deterministic and probablistic models; aggregate production planning models, scheduling models, assembly line balancing.

475 Multivariate Analysis (3)

Prerequisite: QM 461 or equivalent. The least squares principle; estimation and hypothesis testing in linear regression; multiple and curvilinear regression models; discriminant analysis; principal components analysis; application of multivariate analysis in business and industry.

490 Queuing and Stochastic Process Models in Business and Economics (3)

Prerequisite: calculus, QM 362 or 363 and 361. Single and multichannel queuing systems of Markovian and general arrival and departure streams; birth-death processes, cost models and optimization of queues; Markov analyses; introduction to renewal theory; reliability.

499 Independent Study (1–3)

Prerequisites: quantitative methods concentration, senior standing, and approval by the department chair. Open to qualified undergraduate students desiring to pursue directed independent inquiry. May be repeated for credit.

507 Organizations and Their Informational Systems Requirements (3)

Prerequisite: Accounting 407 or equivalent. A broad, rigorous, non-mathematical study of the information processing requirements of organizations and the abstract factors which characterize these requirements.

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512 Quantitative Business Decision Techniques, A (3)
Prerequisites: Math 130 or equivalent (may be taken concurrently), and classified M.B.A. status. An introduction to computer programming in a problem oriented language; elementary probability concepts and mathematical models for business decision making including applications in the production process.

513 Quantitative Business Decision Techniques, B (3)
Prerequisites: QM 512, Accounting 510, Economics 514, and classified M.B.A. status. Statistical inference including simple and multiple regression and correlation, non-parametric methods, analysis of variance, and quality assurance in the production process.

526 Quantitative Business Decision Analysis (3)
Prerequisites: QM 513 and classified M.B.A. status. Techniques from probability, statistical decision theory, and computer simulation applied to problems of management; problems of decision-making under uncertainty, especially related to managerial decisions.

560 Operations Research for Management (3)
Prerequisites: Math 130 or 150A, and classified M.B.A. status. Techniques of operations research, with emphasis on model construction. Topics include optimization in continuous models, linear programming, queueing and scheduling models, inventory models, dynamic programming. (Not open to students with QM 363)

565 File Management and Information Systems (3)
Prerequisites: QM 464 or consent of instructor. An examination of innovative real-time computer-based information systems in industry and government.

576 Business Modeling and Simulation (3)
Prerequisites: graduate status and consent of instructor. Theory of modeling and simulation of business activities. Selected topics include planned models, flow graphs, queueing phenomena, industrial dynamics, human factors and large-scale systems.

597 Project (3)
Prerequisite: classified M.B.A. status. Directed independent inquiry.

599 Independent Graduate Research (1–3)
Prerequisites: classified M.B.A. status and consent of department chair. May be repeated for credit.

human development and community service



SCHOOL OF HUMAN DEVELOPMENT AND COMMUNITY SERVICE

Dean: Robert T. Stout

The School of Human Development and Community Service offers work designed to provide preservice education and professional development for professionals in education, nursing and other forms of public service. Courses are offered at the bachelor's degree level in child development, counseling, human services, nursing, physical education, recreation, reading and teacher training. In addition, graduate work is offered in bilingual education, early childhood education, counseling, physical education, reading, school administration, special education and teacher education.

RESEARCH PROGRAMS IN EDUCATION

510 Research Design and Analysis (3)

Prerequisites: bachelor's degree, Teacher Education 509 or equivalent. Elements of design, instrumentation, treatment of data, hypothesis testing and inference and analysis of educational data. Develop a research proposal. Practice in analyzing and evaluating research reports.

SERVICE PROGRAM

252 Career Exploration and Life Planning (3)

Exploration of personal career potentials, employment trends, decision-making, goal-setting and job search methods. Lectures, panels, small group interaction, vocational-educational tests will be used.

CHILD DEVELOPMENT

James Gilmore (Education)
Program Coordinator

The B.S. in Child Development is administered by an interdisciplinary group representing the ethnic studies programs, the nursing program, the Department of Psychology, the Department of Sociology and the Division of Teacher Education.

This degree is designed for students interested in child related vocations. The objective of this program is to expand the degree candidate's understanding of growing human individuals and his ability to work effectively with them.

BACHELOR OF SCIENCE IN CHILD DEVELOPMENT

The major in child development requires the successful completion of a minimum of 51 units which satisfy the pattern indicated below. Each degree candidate and faculty adviser will select course options consistent with the student's background and interests, and assure that the program forms a coherent entity. The program is approved by a faculty committee of three, including the adviser. Each member of this committee will be a member of a different academic department.

	Units
Upper Division	50

Required (Either of the following):
- Child Development 312, Human Growth and Development (Same as Ed-TE 312) (3)
- Psychology 361, Developmental Psychology (3)

Required (Minimum of 6 units selected from the following):
- Child Development 385, Infancy and Early Childhood (Same as Ed-TE 385) (3)
- Child Development 390, Middle Childhood (Same as Ed-TE 390) (3)
- Child Development 386, Adolescence (Same as Ed-TE 386) (3)

Required (Each of the following courses—minimum of 17 units):
- Biological Science 314, Ethics and Genetics (1)
- Biological Science 360, Biology of Human Sexuality (1)
- Child Development 391, Practicum (3)
- Child Development 496, Senior Seminar (3)
- Special Education 371, Exceptional Individual (3)
- Psychology 463, Experimental Child Psychology (3)

Sociology 453, Child in American Society (3)

Required (Minimum of 6 units selected from the following):
Afro-ethnic Studies 309, Black Family (3)
Anthropology 415, Culture and Personality (3)
Chicano Studies 431, Chicano Child (3)
Criminal Justice 330, Crime and Delinquency (3)
Sociology 413, Juvenile Delinquency (3)
Sociology 451, Sociology of the Family (3)

Required (Minimum of 9 units—select from the following):
Afro-Ethnic Studies 422, Psychology of the Afro-American (3)
American Studies 301, American Character (3)
Anthropology 450, Culture and Education (3)
Art 380, Art and Child Development (3)
Biological Science 313, Human Genetics (3)
Chicano Studies 305, Chicano Family (3)
Criminal Justice 425, Juvenile Justice (3)
Education-TE 406, Educational Sociology (3)
Education-TE 437, Early Childhood Education (3)
English 433, Children's Literature (3)
Music 333, Music and Child Development (3)
Psychology 311, Educational Psychology (3)
Psychology 471, Behavior Modification (3)
Physical Education 425, Sensory-Motor Development (3)
Physical Education 425, Movement Education (3)
Sociology 341, Social Interaction (3)
Speech 403, Speech and Language Development (3)
Theatre 402, Dramatic Activities for Children (3)
Theatre 471, Creative Dance for Children (3)

Required 9 units of electives selected with approval of adviser
Total for major 50

CHILD DEVELOPMENT COURSES

312 Human Growth and Development (3)
(Same as Ed-TE 312)

385 Infancy and Early Childhood (3)
(Same as Ed-TE 385)

386 Adolescence (3)
(Same as Ed-TE 386)

390 Middle Childhood (3)
(Same as Ed-TE 390)

391 Practicum in Child Development (3)
Prerequisites: Child Development 385, 390 or 386 and consent of instructor. Supervised practical experience with children or adolescents in selected community settings. Seminar and field placement. May be repeated for a maximum of six units of credit.

496 Senior Seminar in Child Development (3)
Prerequisite: consent of instructor. Topics in child development selected by the faculty and students participating in course. Theory, methodology and findings are emphasized.

COUNSELING/PSYCHOMETRY/SCHOOL PSYCHOLOGY

FACULTY
David Keirsey
Coordinator
Raymond Choiniere, Keith Golay, Milton Lucius, Michael Parker

PART-TIME
Jerome Atkin, Dewitt Bogue, Terry Caffey, Edwin Carrigan, LeRoy Cordrey, Lang Dana, Evelyn Delunas, Vickie Dendinger, Ski Harrison, Eleanor Hicks, Wm. LaForge, Kay Ostensen, Jean

113 8 9 485

Preble, John Seeland, Les Shuck, Jan Will.

The counseling/psychometry/school psychology program is focused on the competencies which students acquire. Students who exit from the program as graduates will be certified by the faculty as having demonstrated to a specified degree, a specified set of competencies. Curricula are offered leading to (1) the degree of Master of Science in Counseling and (2) credentials in counseling and school psychology.

MASTER OF SCIENCE IN COUNSELING

Prerequisites

An applicant must meet the university requirements for admission in conditionally classified graduate standing: a baccalaureate degree from an accredited institution and a grade-point average of at least 2.5 in the last 60 semester units attempted (see section of this catalog on admission of graduates for complete statement and procedures). In addition, an applicant should have professional experience or other approved experience. Applications are screened by a Faculty Review Committee and applicants are notified of their acceptance or nonacceptance. As soon as a student is admitted to the university for work toward this degree, he should schedule an appointment with a faculty adviser to work out a program of studies and a schedule of classes. Applicants may wish to schedule a conference for preliminary program advisement before submitting a formal application.

A student who meets the requirements for conditionally classified graduate standing, as well as the following requirements, may be admitted as a classified student upon the development of an approved study plan:

(1) An approved major;
(2) A grade-point average of 2.5 overall;
(3) Satisfactory interview, references and autobiography;
(4) Coun/Psy 452 satisfactorily completed or in progress, and approved for further work in the program by the Faculty Review Committee. The student should complete a formal study plan for the M.S. in Counseling degree, and file a request for classified standing in the university Graduate Office. Admission to classified standing is through formal and informal screening processes, is by faculty decision, and is approved by the dean of graduate studies.

Study Plan

The following information is provided to assist students in planning programs and in seeking admission to classified graduate status. Students should consult the *Graduate Bulletin* for information concerning standards for graduate study, steps in the master's degree program, and graduate policies and procedures. Thirty semester units of graduate work, specified on a formal study plan approved by the graduate adviser, must be completed within five years. The units are to be distributed as follows:

	Units
Master's degree studies, supporting courses	9
Ed-RP 510 Research Design and Analysis (3) *or*	
Coun/Psy 557 Research and Development in Counseling and Psychology (3)	
Adviser-approved courses (6)	
Courses for the concentration in counseling	21
Coun/Psy 452 Explorations in Self-Concepts: Professional/Personal (3)	
Coun/Psy 550 Counseling Procedures I (3)	
Coun/Psy 551 Career Education and Program Development (3)	
Coun/Psy 552 Group Leadership (3)	
Coun/Psy 553 Program Management and Operation (3)	
Coun/Psy 555 Psychological Disorders I (3)	
Coun/Psy 598 Thesis, or Coun/Psy 597 Project, or Coun/Psy 595 Advanced Studies: Assessment Seminar (includes comprehensive examination) (3)	
Total	30

For advisement and further information, consult the program graduate adviser.

See also "The Program of Master's Degrees" in this catalog and the *Graduate Bulletin.*

ADVANCED CREDENTIAL PROGRAMS

The program offers work toward the basic pupil personnel credentials with authorization for counseling and school psychology. Students are asked to check with an adviser to plan a program of study.

COUNSELING/PSYCHOMETRY/SCHOOL PSYCHOLOGY COURSES

315 Self-Actualization Group: Experiences in Human Growth (3)
Prerequisite: consent of instructor. Intensive small group experiences to assist in unleashing each individual's growth. Self-actualization and related existential and humanistic concepts will be explored, using recently developed methods. Lectures, individual assignments supplement the class experiences. Credit/No credit grading only.

316 Group Process and Leadership (3)
Prerequisite: consent of instructor. Opportunity to experience the impact of group members on each other, the process of a growth group, the influence of leadership, and the analysis of group forces from various theoretical views. Credit/No credit grading only.

317 Special Group Experiences (3)
Prerequisite: consent of instructor. Participants are trained in group models, e.g., transactional analysis, Gestalt, "open couples," "residential marathon," "existential," "therapeutic community." Participants are led by experts in each model and will receive leadership training. Credit/No credit grading only.

452 Explorations in Concepts: Professional/Personal (3)
A didactic and experiential exploration of work in the helping profession with emphasis on personal and professional concepts. This screening course is designed to give members opportunity to "sample" helping methods.

500 Survey of Collegiate Student Personnel Services (3)
History, philosophy, objectives, organization and administration of collegiate student personnel services. (2 hours lecture, 2 hours activity)

540 Sexual Dysfunction and Social Delinquency (3)
Prerequisite: Coun/Psy 555 and consent of instructor. An opportunity to acquire diagnostic, therapeutic, and consultive skills for several forms of social dysfunction such as sexual, addictive, and aggressive delinquency, including rape, alcoholism, gambling, etc. Required for school psychologist credential. Credit/No credit or letter grade.

543 Individual Mental Tests Proseminar: Metric Methods (3)
Prerequisites: Coun/Psy 555, 545 and consent of instructor. Administration, scoring and explaining of samples of cognitive behavior scales, including the Stanford-Binet, Wechsler, Illinois Psycholinguistic, Leiter International and others. Required for school psychologist credential.

544 Individual Mental Tests Proseminar: Projective Methods (3)
Prerequisites: Coun/Psy 555, 545 or consent of instructor. Administration, scoring and explanation of samples of projective behavior from projective devices, including the Thematic Apperception, Family Drawings, Draw a Man, House-Tree-Person, Bender Gestalt and a Sentence Completion. Required for school psychologist credential. May be repeated once for credit.

545 Observation I Proseminar (3)
Prerequisites: Coun/Psy 555 and consent of instructor. Opportunity to learn and demonstrate competencies in using a variety of tests, inventories, interview techniques and instrumental feedback. For assessing clients of varying age, sex, culture, and ethnicity. May be repeated once for credit with consent of instructor.

546 Psychological Disorders II Proseminar (3)
Prerequisites: Coun/Psy 555, 545 and consent of instructor. Opportunity to learn and demonstrate competencies in the diagnosis, prescription/remediation and consultation on disorders of thought and language for clients of varying age, sex, culture and ethnicity. Required for school psychologist credential.

547 Psychological Disorders III Proseminar (3)
Prerequisites: Coun/Psy 555, 545 or consent of instructor. Opportunity to practice consultation on the spectrum of abnormal behaviors of clients of varying age, sex, culture and ethnicity. Required for school psychologist credential. May be repeated with consent of instructor.

548 Individual and Group Counseling Assessment Seminar (3–6)
Prerequisites: Coun/Psy 452, 550, 552, 555, 545 with a grade of "B" or better and consent of instructor. Didactic coaching, and assessment opportunities in group and individual treatment methods. Opportunity to learn and demonstrate the utilization of the paradoxical properties of standard treatment mehods. May be repeated for credit.

549 Conjoint Counseling (3)
Prerequisites: Coun/Psy 556 and consent of instructor. Applications of the Interdiction Model, Structured Interaction Model and MFC Model of family group leadership. Required for school psychologist credential. May be repated once with consent of instructor.

550 Counseling Procedures I (3)
Prerequisites: Coun/Psy 452 and consent of instructors. Standard treatment methods useable in schools, homes, and clinics with individual clients of varying age, sex, culture and ethnicity. May be repeated once for credit with consent of instructor.

551 Career Education and Program Development (3)
Prerequisites: Coun/Psy 452 and consent of instructor. Consultation skills in the development and operation of programs for preventing mismatch of clients and their opportunities, including student data dissemination, tutor corps, motivation laboratory, parenting, career centers, etc. May be repeated once for credit with consent of instructor.

552 Group Leadership (3)
Prerequisites: Coun/Psy 550 and consent of instructors. Seminar in group leadership using lectures, demonstrations, coaching and experiential learning opportunities. A variety of theoretical approaches are integrated into a leadership model appropriate for work in clinics, in public schools, in community agencies, and in child and family counseling. May be repeated once for credit with consent of instructor.

553 Program Management and Operation (3)
Prerequisites: Coun/Psy 555 and consent of instructor. Seminar in management of family systems with focus on results management. Family group leadership and competencies in child development inservice programs emphasized. Includes laws relating to family and child welfare. May be repeated once for credit with consent of instructor.

555 Psychological Disorders I (3)
Prerequisites: Coun/Psy 452 and consent of instructor. Opportunity to learn consultation skills on the spectrum of abnormal behaviors and experiences of clients of varying age, sex, culture, and ethnicity. May be repeated once for credit with consent of instructor.

556 Therapeutic Paradox (3)
Prerequisite: Coun/Psy 548 or consent of instructor. Opportunity to learn the double bind and suggestion methods of Milton Erickson and to refine the paradoxical uses of standard treatment methods. Required for school psychologist credential. Repeatable once with consent of instructor.

557 Research and Development in Counseling and Psychology (3)
Student acquires consultation competencies in describing the location, coverage and usefulness of literature in the field, design and criticism of research in institutional settings, use of measures of central tendency and dispersion within and between samples. May be repeated once for credit with consent of instructor.

558A Casework Seminar (3)
Prerequisites: Coun/Psy 543 and 544 or concurrent and consent of instructor. Practicum in case analysis and planning of intervention strategies, including audio and videotape reviews of actual cases. Required for school psychologist credential.

558B Personality Study: Human Development (3)
Prerequisites: Coun/Psy 555 and 546 or consent of instructor. Consulting and inserve skills in the domain of personality development including the development of thought and language, of emotions and motives, of motion and propioception. Adaptation, enculturation and learning are considered. Required for school psychologist credential.

559A Fieldwork in Counseling (3)
Prerequisites: Coun/Psy 550, 552, 555, 545, classified status and consent of faculty committee. Work in schools and/or other institutions under supervision. 140 clock hours and work with clients of varying age, sex, culture, and ethnicity. Assignments are on an individual basis, meet in weekly seminar. Required for counseling credential. May be repeated for credit.

559B Fieldwork in Counseling (3)
Prerequisites: Coun/Psy 548, 545, 559A, advancement to candidacy and consent of faculty committee. Work in schools and/or other institutions under supervision. 140 clock hours and work with clients of varying age, sex, culture, and ethnicity. Assignments on individual basis, meet in weekly seminar. Required for counseling credential. May be repeated for credit.

559C Fieldwork in School Psychology (3)
Prerequisites: Coun/Psy 559A,B and consent of faculty committee. 240 clock hours of practice in schools and other institutional settings under supervision of local practitioners and university staff. Weekly casework seminar. May be repeated for credit. Required for school psychologist credential.

559D Fieldwork in School Psychology (3–6)
Prerequisites: Coun/Psy 559A,B,C and consent of faculty committee. 240 clock hours in participation in casework and staff development activities in schools and/or other institutional settings under supervision of local practitioners and university staff. Weekly seminar. May be repeated for credit. Required for school psychologist credential.

595 Advanced Studies: Assessment Seminar (1–3)
Prerequisite: Approval by Faculty Review Board. Opportunity to perform any of the spectrum of methods of treatment, consultation, and inservice training before an examining board. Proficiency ratings are given on these performances. May be repeated for credit. Required at both counseling and school psychology levels.

596 Graduate Educational Practicum (1–3)
Prerequisite: consent of instructor. Conduct at a graduate level an educational practicum experience with an individual under the direction of a faculty member. May be repeated for a maximum of six units.

597 Project (1–3)
Prerequisite: consent of instructor. Individual research on an empirical project, with conferences with the instructor, culminating in a project.

598 Thesis (1–3)
Prerequisite: consent of instructor. Individual research with conferences with the instructor, culminating in a thesis.

599 Independent Graduate Research (1–3)
Prerequisite: consent of instructor. Open to qualified graduate students desiring to pursue independent inquiry.

HUMAN SERVICES

Michael Brown (Political Science)
Program Coordinator

The Bachelor of Science in Human Services is a carefully articulated program providing both an academic and experimental background for the student seeking a career working with people in the varied and expanding field of human services. The required core curriculum reflects a cross-cutting integration of psychology, sociology, education and counseling in addition to phased experiences in supervised field placements.

To attain intellectual depth and academic preparation in a particular area of concentration, the human services major will select 15-units of upper division courses in addition to the required core curriculum. Students with specific career interests and/or exceptional occupational backgrounds may construct an individual concentration core with the advice and prior approval of an adviser and the program director.

Teacher credential seeking students: students planning to go on for a teaching credential after completion of the B.S. in Human Services are urged to complete all of their human services requirements during the first three semesters of their participation in the human services program to free their final semester for the teacher education block of courses.

Multiple Subjects Credential Waiver Program: The human services major has been approved for the multiple subject credential option of the Teacher Preparation and Licensing Law of 1970 (Ryan Act). Students who have properly selected their undergraduate courses can be granted the multi-subject (elementary) credential without having to take the State Licensing Examination. Contact the human services office for further information.

Degree Requirements: Majors must demonstrate English language proficiency on the College English Placement Test in the first semester of matriculation in human services. Students failing to meet the minimal standards will be required to remediate in areas of weakness.

Majors must achieve a grade of C or better in all courses included in the core requirements and concentration package.

	Units
A. Required core curriculum	42

Upper division:

First semester: Human Services 300, Character in Conflict (3); Human Services 380, Theories of Counseling (3); Psychology 361, Developmental Psychology (3) *or* Child Development 312, Human Growth and Development (3) Human Services 395, The Human Services (3)

Second semester: Human Services 311, Intracultural Socialization Patterns (3); Psychology 341, Abnormal Psychology (3); Sociology 466, Deviant Behavior (3); Human Services 396, Practicum (3)

Third semester: Human Services 470, Measurement: Program Analysis and Evaluation (3); Human Services 480, Case Analysis and Intervention Techniques (3); Human Services 485, Program Design and Proposal Writing (3); Human Services 495, Internship (3)

Fourth semester: Human Services 497, Assessment (3); Human Services 496, Internship (3)

B. Required core of concentration	15
Coursework selected from curricula designed by faculty in the area of concentration.	
Total	57

Student Advisement

Graduates of the human services program are prepared to seek employment in a wide variety of service agencies including those which deal with exceptionality, child care, geriatrics, probation, correction and detention, mental health, education, community change and minority relations, rehabilitation, and career development. Many graduates of the program prefer to continue their training in a specialized area rather than seek a career immediately. Students who intend to enter an advanced degree program after completing the B.S. in Human Services are urged to declare that intent by the end of their junior year in order that their concentration package is congruent with the required preparation for graduate work in their chosen area.

Students interested in pursuing the "double degree" option, a B.S. degree in human services and a B.A. in a related discipline, should declare their intent early in order to minimize the additional time necessary to fulfill the requirements for both the B.S. and the B.A. degrees.

Students preparing for graduate work in psychology are advised to consider a double-degree option in human services and psychology.

If entry into a graduate program necessitates that certain substitutions be made for human services courses, equivalencies can be approved by the program coordinator. As a general rule, these substitutions are in statistics and research methods and certain courses demanded for graduate work in psychology and sociology. For example, Human Services 470 may be substituted by Psychology 161 and Psychology 202 or by Sociology 331A and 331B or 331X.

Transfer students: Students transferring from a two- or four-year institution are urged to complete all general education requirements prior to enrollment in the human services program. This will allow the student to embark upon the core curriculum with its fieldwork component, as well as his area of concentration, without diversion of time and energy in satisfying the general education requirements.

Cal State Fullerton students: Students doing their lower division work at this university are advised to complete all general education requirements before entering the human services program, although they may declare the human service major in either the freshman or sophomore year.

Change of Majors

Students making a change from their prior major into human services must complete a change of major form available from the Office of Admissions and Records and approved as stipulated on the form.

HUMAN SERVICES COURSES

300 Character in Conflict (3)

An exploration—via lectures, discussion and group encounter—into the problems and techniques of resolving the conflicts created by the individual's struggle to achieve and maintain personal autonomy while living successfully in an automated world. Topics include: autonomy, masculinity-feminity, love, sex, marriage, meaning and encountering others.

128 8 9 560

311 Intracultural Socialization Patterns (3)
(Same as Afro-Ethnic Studies 311)

380 Theories of Counseling (3)
Analysis of basic theories underlying the counseling situation; long-range and short-term applicability; situational and functional appropriateness of theory; ethics and the counselor-client relationship.

395 The Human Services (3)
Survey of the field of human services; inventory of student aptitudes, abilities and goals; review of community agencies and their functions and requirements; observation and experience in basic helping situations. Required of all majors in the first semester.

396 Practicum (3)
Field placement in a variety of on-campus and community service locations. First semester practicum required of all majors.

470 Measurement: Program Analysis and Evaluation (3)
Review and analysis of pertinent measuring instruments applicable to human service screening procedures; use and limitations of available measurements; collection and analysis of aggregate data; uses of aggregate information from academic research and public agency reports; interpretation and application of basic statistics in aggregate data analysis; evaluation techniques applicable to new and continuing programs. To be taken concurrently with Human Services 485.

480 Case Analysis and Intervention Techniques (3)
Prerequisites: Human Services 380, Human Services 395, and Sociology 466 or Psychology 341. Basic techniques of counseling; appropriateness in the utilization of theoretical modalities; limitations of time, institutional function, and counselor training; the art of referral. Utilizing field situations through role-playing and video observations of actual counseling encounters to critique techniques and strategies in counseling; stressing experience in clear and cogent case writing and reporting.

485 Program Design and Proposal Writing (3)
Programming in public and private agencies; program proposal writing; design of empirical research components for innovative programming and accountability; analysis and critiques of agency task force programming for immediate social problems; program-funding agencies and grant writing; program budget and effect on design. To be taken concurrently with Human Services 470.

490 Practicum in Group Leadership (3)
Prerequisites: Human Services 300, Human Services 380 and consent of instructor. Supervised experience as a group leader, with emphasis on various approaches and techniques of group leadership. May be repeated for credit. May be substituted for 495 or 496.

495 Internship (3)
Supervised work in a community or campus human service location. Second semester of practical experience required of all human services majors.

496 Internship (3)
Supervised field work in community human service agency. Third semester of practical experience required of majors.

497 Assessment Seminar (3)
Analysis of student's academic performance, basic skills, aptitudes and satisfactory field performance; assessment of basic competencies in the general field of human services covered by the human services core curriculum; assessment of competencies in the special area of concentration by the Faculty Assessment Team. This assessment and evaluation seminar is to be taken in the last semester of course and field work by all majors.

NURSING

FACULTY
Wilma Traber
Program Coordinator
Arlene Gray, Robert McFerran, Vera Robinson, Jeanne Sterling, Audree Vernon

BACHELOR OF SCIENCE IN NURSING

The nursing program is an upper division program for registered nurses seeking a Bachelor of Science degree in nursing. The curriculum is designed to prepare students for professional nursing functions:

initial and continuing assessment of the health status of individuals and families in collaboration with, or independently from others; decision making regarding appropriate interventions; and accountability as a consumer advocate. The student will have the opportunity to expand skills in physical assessment, mental health, community health leadership, and research. Graduates are prepared to function as professional nurses in a variety of settings. The educational foundations provided prepare the graduate for continuing professional development.

Admission Requirements

1. Qualify for admission to the university.
2. Possess current licensure to practice as a registered nurse in the state of California.
3. Attain upper division standing.
4. Possess transferable college courses (or equivalents) in anatomy and physiology, microbiology and introduction to chemistry (with labs). A combined inorganic and organic chemistry is preferred. A minimum of "C" grade must be attained in each course and proficiency should be equivalent to the past five years.
5. Possess at least 6 units of transferable college courses in psychology, sociology or anthropology.
6. Possess malpractice insurance.
7. Possess a current California driver's license and access to transportation to extended campus clinical facilities.
8. Have access to an approved medical or nurse-practitioner preceptor.
9. Have access to a cassette tape recorder.

The student must submit duplicate transcripts of all previous college work: one to the Office of Admissions and one to the nursing program.

One year of work experience as a registered nurse is encouraged.

Study Plan

The total number of units required for graduation is 128:

1. Nursing	34 units	(a selected clinical area in the second semester of the senior year)
2. Chemistry 300	3 units	
Chemistry 300L	1 unit	
3. Biological Science 425	4 units	

A minimum of nine units of behavioral sciences are strongly recommended as support courses for the area of nursing interest selected by the student. Students preparing for graduate school must take an upper division statistics course.

A battery of entry and exit tests will be administered after admission and prior to graduation. There is a fee for these exams. They will be used for student advisement and program evaluation purposes. The student is responsible to make arrangements with the testing office to take the tests. The Chemistry Department administers a pre-test prior to progression in Chem 300.

All required nursing and support courses must be taken in sequence. Students must apply for specific nursing courses each semester prior to enrolling in the class (November 15 for spring semester and April 15 for fall semester). Admission to all nursing Field/Laboratory classes is restricted. Faculty advisers are assigned to individual students to help with program planning. Students are required to make an appointment with advisers at least once a semester. To remain in the nursing sequence, students must attain a minimum grade of "C" in all required courses.

The nursing curriculum requires a minimum of four semesters. Students may attend part time or full time.

Course Requirements:

Nursing 305	Nursing Practice I (2)
Nursing 305L	Nursing Practice I Field/Laboratory (3)
Nursing 307	Human Life Cycle I (3)
Chemistry 300	Introduction to Organic and Physiological Chemistry (3)
Chemistry 300L	Introduction to Organic and Physiological Chemistry Laboratory (1)
Nursing 355	Nursing Practice II (2)
Nursing 355L	Nursing Practice II Field/Laboratory (3)
Nursing 357	Human Life Cycle II (3)
Biological Science 425	Pathobiology (4)
Nursing 400	Nursing Process (2)

Nursing 400L	Nursing Process Field/Laboratory (1)
Nursing 402	Clinical Studies (2)
Nursing 402L	Clinical Studies Field/Laboratory (4)
Nursing 450	Advanced Nursing Process (Nursing Research) (2)
Nursing 450L	Advanced Nursing Process (Nursing Research) Field/Laboratory (1)
Nursing 452	Advanced Clinical Studies (2)
Nursing 452L	Advanced Clinical Studies Field/Laboratory (4)

NURSING COURSES

305 Nursing Practice I (2)

Prerequisites: current California Registered Nurses' license, Associate Degree (junior standing) and consent of instructor. Corequisite: Nursing 305L. To introduce the theory and concepts of the nursing process emphasizing health assessment, self concept, bio-psycho-socio-cultural concepts, communication skills and the humanistic helping process.

305L Nursing Practice I Field/Laboratory (3)

Prerequisites: current California Registered Nurses' license, Associate Degree (junior standing) and consent of instructor. Corequisite: Nursing 305. Application of the theories and concepts presented in Nursing 305 through seminars to facilitate increased awareness of self and others by the improved use of the communication process and laboratory practice of health assessment skills.

307 Human Life Cycle I (3)

Prerequisites: junior standing and consent of instructor. The physiological, social, intellectual and emotional aspects of growth and development throughout the life cycle from conception through adolescence, including the dynamic relationship of familial, environmental, social and cultural values.

355 Nursing Practice II (2)

Prerequisites: Nursing 305, 305L, 307, Chem 300, Chem 300L, and consent of instructor. Bio Sci 425 may be taken prior to or concurrently. Corequisite: Nursing 355L. A continuation of the theory and concepts of the nursing process focusing on planning, intervention and evaluation, including the bio-psycho-socio-cultural assessment of the health status of the client in interaction with environment/family/groups.

355L Nursing Practice II Field/Laboratory (3)

Prerequisites: Nursing 305, 305L, 307, Chem 300, Chem 300L, and consent of instructor. Bio Sci 425 may be taken prior to or concurrently. Corequisite: Nursing 355. Application of the theories and concepts presented in Nursing 355 through seminar to facilitate the understanding of group dynamics through group process. Laboratory practice focuses on in-depth assessment and beginning implementation and evaluation.

357 Human Life Cycle II (3)

Prerequisites: Nursing 307, junior standing and consent of instructor. The physiological, social, intellectual and emotional aspects of growth and development throughout the life cycle from young adulthood through aging, including the process of death and dying. The application of knowledge to the nursing process will be emphasized.

400 Nursing Process (2)

Prerequisites: Nursing 355, 355L, 357, Chem 300, Chem 300L, Biol Sci 425, and consent of instructor. Corequisite: Nursing 400L. Introduction to collaborative leadership and professional dimensions of nursing process with emphasis on accountability and transmission and advancement of nursing knowledge and skills.

400L Nursing Process Field/Laboratory (1)

Prerequisites: Nursing 355, 355L, 357, Chem 300, Chem 300L, Biol Sci 425, and consent of instructor. Corequisite: Nursing 400. Clinical/seminar application of Nursing 400 concepts, focusing on the educational model in prevention of illness and maintenance of health.

402 Clinical Studies (2)

Prerequisites: Nursing 355, 355L, 357, Chem 300, Chem 300L, Biol Sci 425, access to cassette tape recorder, and consent of instructor. Corequisite: Nursing 402L. Theory and concepts in the utilization of the nursing process with client/family/community health related problems in the community setting.

402L Clinical Studies Field/Laboratory (4)
Prerequisites: Nursing 355, 355L, 357, Chem 300, Chem 300L, Biol Sci 425, and consent of instructor. Corequisite: Nursing 402. Clinical/seminar applying professional nursing care to clients/families with diverse life styles and health needs in the community setting.

450 Advanced Nursing Process (Nursing Research) (2)
Prerequisites: Nursing 400, 400L, 402, 402L and consent of instructor. Corequisite: Nursing 450L. Research: identification of nursing problems, data collection and data analysis.

450L Advanced Nursing Process (Nursing Research) Field/Laboratory (1)
Prerequisites: Nursing 400, 400L, 402, 402L and consent of instructor. Corequisite: Nursing 450. Clinical/seminar conducting a study in a selected clinical setting.

452 Advanced Clinical Studies (2)
Prerequisites: Nursing 400, 400L, 402, 402L and consent of instructor. Corequisite: Nursing 452L. Synthesizes the nursing process in the professional nursing role. Principles and concepts of leadership, advocacy, change and decision-making will be emphasized.

452L Advanced Clinical Studies Field/Laboratory (4)
Prerequisites: Nursing 400, 400L, 402, 402L and consent of instructor. Corequisite: Nursing 452. Clinical/seminar to operationalize the professional nursing role and development of expertise in a selected clinical area through contractual study.

495 Seminar in Nursing (2)
Prerequisites: senior standing in nursing and/or consent of instructor. Selected topics in nursing.

499 Independent Study in Nursing (1–3)
Prerequisites: senior standing in nursing and/or consent of instructor. Individually supervised projects and/or study either in the library or in the clinical setting.

READING

FACULTY
Deborah Osen Hancock
Coordinator; Director, Institute for Reading
Ashley Bishop, Ann Coil, Adelina Gutweiler, Norma Bartin Inabinette, Ruth May, Stanley Wanat

MASTER OF SCIENCE IN EDUCATION

Reading

A program of graduate studies leading to the degree of Master of Science in Education Reading, is authorized by The California State University and Colleges Board of Trustees. The program is designed to help qualified individuals gain the technical knowledge and scholarship requisite to becoming reading specialists. This professional program is based on and combined with sound preparation in the liberal arts and sciences. The curriculum proposes an interdisciplinary approach to the preparation of the professional specialist in the area of reading.

Prerequisites

An applicant must meet the university requirements for admission in conditionally classified graduate standing: a baccalaureate degree from an accredited institution and a grade-point average of at least 2.5 in the last 60 semester units attempted (see section of this catalog on admission of graduates for complete statement and procedures). In addition, an applicant must have an approved major and complete an application to the reading program. He will confer with the graduate program adviser to discuss the prerequisites for attaining classified standing.

A student who meets the requirements for conditionally classified graduate standing, as well as the following requirements, may be admitted as a classified graduate upon the development of an approved study plan: successful teaching experience or other approved experience; a grade-point average of 2.5 or better in academic and related work; sufficient background in reading; a satisfactory interview; and four references from school administrators, school supervisors or professors.

Study Plan

The final adviser-approved program of coursework for the degree must include:

	Units
Master's degree studies	3
Reading 510 Research Design and Analysis (3)	
Courses for the concentration in reading (no grade below B)	27
Reading 507 Current Trends in Secondary and College Reading Programs (3) *or*	
Reading 508 Teaching Reading in Today's Elementary School (3)	
Reading 516 Etiology of Reading Difficulties (3)	

Reading 517 Educational Testing and Reading Instruction (3)
Reading 581 Analysis of Reading Difficulties (4)
Reading 583A Reading Improvement Casework (3)
Reading 583B Reading Improvement Casework (3)
Reading 584 Linguistics and Reading (4)
Elective(s): adviser-approved course(s) in reading or related field (3)
Reading 595 Advanced Studies (includes comprehensive examination) (1) *or*
Reading 597 Project (1) or Educ 598 Thesis (1)
Total 30

For advisement and further information, consult the program graduate adviser.

See also "The Program of Master's Degrees" in this catalog and the *Graduate Bulletin.*

UNDERGRADUATE READING SKILL DEVELOPMENT SKILLS COURSES

Lower division courses in reading (Reading 101, 103 minicourses, 201 and 202) and an upper division course (Reading 320) are designed to assist students in developing the critical and creative reading skills required for efficient university learning. Reading 480 presents an overview of reading education (K–adult) and prepares teachers to assess reading skills and build a curriculum based on the results of continuing assessment.

READING SPECIALIST CREDENTIAL

The Commission for Teacher Preparation and Licensing granted approval to the Institute for Reading to offer the Reading Specialist Credential, effective in September, 1974.

An examination of the course requirements will show overlapping between the Reading Specialist Credential and the Master of Science in Reading degree. By careful planning with a graduate adviser in reading, the student can virtually complete the requirements for both at the same time.

Program pre-entry requirements for the Reading Specialist Credential are as follows:

1. *Methods of teaching reading.* Prior to entering this approved program the students will present evidence (transcripts) demonstrating satisfactory completion of one of the following:
   A. Ryan Act reading methods courses, such as Ed-TE 433 or Ed-TE 440R, or
   B. Teaching of reading examination adopted by Teacher Preparation and Licensing Commission, (National Teacher Exam No. 20) or
   C. Reading 480, The Teaching of Reading (4 units) or the departmental exam offered in lieu of the course.
   D. Entering students who received teacher training from out-of-state institutions since September 1973, may submit a transcript and catalog course description and petition to have an undergraduate course accepted in lieu of the above.
2. *Teaching experience.* Prior to entering this approved program, both in-state and out-of-state students will present evidence in the form of letters of verification from the district office demonstrating satisfactory completion of one of the following:
   A. Two or more years of successful experience teaching reading for at least one instructional period per day in public and/or private elementary and/or secondary schools, this experience to include at least a two grade spread, *or*
   B. Two or more years of successful classroom teaching experience, this experience to include at least a two-grade spread, *or*
   C. Two hundred fifty or more days of successful and extensive substitute teaching experience, this experience to include at least a two-grade spread, *or*
   D. Successful student teaching experience, at least part of which involved the teaching of reading, as well as at least 45 hours of successful experience as a
      teaching aide in reading
      reading tutor, this experience to include at least a two grade spread
   E. Students whose teaching experience on the above covers less than a two grade span may complete this requirement by tutoring students in Reading 581 and Reading 583A at a grade level at least two years different from previous experience.

Top priority for entering the credential program will be given to those students meeting criterion "A" listed above. Other applicants will be admitted, as space permits, in descending order according to the remaining criteria.

3. *Assessment of experienced reading specialists.* Prior to entering this approved program, the applicant who has served as a school or district reading specialist will be assessed according to the following criteria and have his program planned around the needs revealed by this assessment:

143 8 9 625

Graduates of master's programs with an emphasis in reading, and applicants functioning as reading specialists who have not completed such a degree: evaluation of competencies required under this credential to be completed by a faculty member in conjunction with the applicant in Reading 582I, Analysis of Reading Practices, Assessment of Reading Specialists and Competencies (1 unit)

Assessment strategies include:

(1) Self assessment of progress toward attaining specified program objectives. Students will rate themselves on a scale of 1–7 on each of the major program objectives. Students who rate themselves
   (a) 1 or 2 on a given objective will be advised to take the appropriate course(s) to meet that objective;
   (b) 3, 4 or 5 on a given objective will be given the opportunity to take a department prepared exam or write a professional paper under the guidance of an instructor which demonstrates that the student has achieved this objective to minimally stated standards. The student may opt to take coursework instead of writing the exam or paper.
   (c) 6 or 7 on the given objective will verify their competency in an oral exam during an interview with a faculty member;
   (d) Students who avail themselves of the oral and/or written evalation procedures and do not meet the previously specified standards will be required to take the required coursework related to these objectives.

(2) Faculty assessment of progress toward attaining specified program objectives, this to include letters of evaluation from supervisory personnel, direct observation by faculty, and/or evaluation of oral or written evaluation.

At the conclusion of the assessment phase, the faculty member will develop a credential study plan which specifies the coursework the student must complete before obtaining the credential.

Program Description *Units*

Reading 507 Current Trends in Secondary and College Reading Programs (3) *and*
Reading 582R Analysis of Reading Practices: Elementary Reading Curriculum (1) *or*
Reading 508 Teaching Reading in Today's Elementary School (3) *and*
Reading 582S Analysis of Reading Practices: Secondary Reading Curriculum (1)
Reading 516 Etiology of Reading Difficulties (3)
Reading 517 Educational Testing and Reading Instruction (3)
Reading 581 Analysis of Reading Difficulties (4)
Reading 583A,B Reading Improvement Casework (6)
Reading 584 Linguistics and Reading (4)
Electives and/or support courses (7-8)
Total 31–32

Electives include:

Reading 582A Analysis of Reading Practices: The ITPA and Reading (1)
Reading 582B Analysis of Reading Practices: Cloze Technique—Its Uses in Teaching Reading (1)
Reading 582C Analysis of Reading Practices: Individualized Reading (1)
Reading 582D Analysis of Reading Practices: Instructional Technology and Reading (1)
Reading 582E Analysis of Reading Practices: Research in Reading (1)
Reading 582F Analysis of Reading Practices: Writing for Publication, Reading (1)
Reading 582G Analysis of Reading Practices: Establishing Reading Laboratories and Learning Centers (1)
Reading 582H Analysis of Reading Practices: Reading and the Gifted (1)
Reading 582I Analysis of Reading Practices: Assessment of Reading (1)
Reading 582J Analysis of Reading Practices: Teaching Reading to Adults (1)
Reading 582K Analysis of Reading Practices: Reading and the Ethnically Different Child (1)
Reading 582L Analysis of Reading Practices: Reading in Early Childhood (1)
Reading 582M Analysis of Reading Practices: The Exceptional Child in Reading (1)
Reading 582N Analysis of Reading Practices: Vision and Reading (1)
Reading 582O Analysis of Reading Practices: Comparative Reading (1)
Reading 582P Analysis of Reading Practices: Fieldwork in a Community Reading Clinic (1–3)
Reading 582Q Analysis of Reading Practices: Evaluation of Textbooks (1)
Reading 582R Analysis of Reading Practices: Elementary Reading Curriculum (1)
Reading 582S Analysis of Reading Practices: Secondary Reading Curriculum (1)

READING COURSES

101 Reading Development (1)
An elective course for students who wish to improve their reading efficiency. May be repeated for a maximum of three units of credit.

103A Assessment of Reading Skills (1)
Participants will be diagnosed in a five-week course. Assessment of reading and study skills, vision and perceptual screening, personal conferences, time-study management and scheduling.

103B Textbook Mastering (1)
An introductory five-week course in the application of systematic procedures for more effective study. Includes techniques for reading chapters as well as entire books more effectively.

103C Note-taking Skills (1)
An introductory modular course on listening and note-taking skills with emphasis on memory and comprehension in auding skills and note-taking.

103D Preparing for and Taking Examinations (1)
An introductory five-week course designed to develop techniques for attaining examination readiness, taking essay tests, objective tests, open book tests and oral tests. Allows students practical application of the principals.

103F Vocabulary Development (1)
An introductory modular class with emphasis on vocabulary development, study of derivatives and root words, spelling improvement, and dictionary study.

103G Critical Reading (1)
An introductory five-week course designed to develop critical reading skills. Through exposure to a wide variety of written material the student will practice detecting fact and opinion, analyze author's purpose, tone and bias, making critical judgments and drawing inferences.

201 Academic Reading: Analyses and Strategies (3)
Development and application of a variety of advanced reading and study strategies, including the analysis of the student's current skills in academic reading.

202 Vocabulary Building (3)
Development of individual vocabulary through study of characteristics of the language usage, word formation exercises, dictionary practice. Selected reading.

320 Power Reading (3)
Intensive approach to reading improvement intended for the upper division student, with particular emphasis on improvement of rate and comprehension, study skills and critical analysis. Not intended for student who has taken Reading 201 or has more than one unit of credit for Reading 101.

480 The Teaching of Reading (4)
Curriculum and methods in the teaching of reading in the elementary and secondary schools. Examination and analysis of the approaches to reading in teachers' manuals and guides. Practical experience in preparing lessons in classroom teaching of reading.

493 Teaching Reading to the Adult Basic Education Student (3)
Analysis of the causes of reading problems in the adult basic education student; assessment, diagnosis and prescription of the reading needs of adults; analysis of current research in the field of teaching reading to adults.

497 Reading Aide Practicum (3)
Training for the practical experience as aides in the Cal State Fullerton reading centers. Course surveys the fundamentals of reading development, teaches the use of audiovisual equipment, and develops the tutor-student relationship. Recommended for students seeking teaching credential. May be repeated once for credit.

507 Current Trends in Secondary and College Reading Programs (3)
Prerequisite: consent of graduate advisor in reading or instructor. Recent research findings on the learner, the teacher, approaches, materials and facilities in the teaching of reading at secondary and college levels.

508 Teaching Reading in Today's Elementary School (3)
Prerequisite: consent of graduate adviser in reading or instructor. Current trends in the teaching of

elementary reading, focusing on the teacher as diagnostician and the reading process as continuous and developmental for all learners.

516 Etiology of Reading Difficulties (3)

Prerequisite: consent of graduate adviser in reading or instructor. Studies of the factors underlying learning disabilities in reading in children, adolescents and young adults.

517 Educational Testing and Reading Instruction (3)

Prerequisite: consent of graduate adviser in reading or instructor. Survey of individual and group intelligence, achievement, interest, aptitude, vocational and personality tests. Theory and practical application of individual and group tests used with students having learning problems.

519 The Principal's Role in the Effective School Reading Program (3)

Prerequisite: consent of graduate adviser in reading or instructor. Includes techniques for developing the philosophy, goals and objectives of the school reading program consistent with the PPBS format procedures for assessing and developing students' reading ability and methods for providing faculty inservice experiences in reading.

581 Analysis of Reading Difficulties (4)

Prerequisite: consent of graduate adviser in reading or instructor. Analysis and diagnosis of reading difficulties. Techniques and methods of prevention and treatment. Individual remediation of student. Primary through secondary.

582A Analysis of Reading Practices: The ITPA and Reading (1)

Study and application of the Illinois Test of Psycholinguistic Ability to reading development. Course will include theoretical background, administration, interpretation and application of the instrument.

582B Analysis of Reading Practices: Cloze Technique—Its Uses in Teaching Reading (1)

Study of the classroom uses of the Cloze Techinque in assessing readability difficulties of material and comprehension of specific material by the learner. Practical application of Cloze principles in teaching specific reading skills.

582C Analysis of Reading Practices: Individualized Reading (1)

Goals and objectives of the individualized program. Assessment, selection and organization of materials. Management of the teacher student conferences, skill development, and a variety of learning opportunities. Evaluation procedures. May be repeated for a maximum of 3 units of credit.

582D Analysis of Reading Practices: Instructional Technology and Reading (1)

Overview of instructional technology used in reading such as tachistoscopes, reading pacers, mechanized programmed material. Demonstration and practice in using these materials. Application of instruction technology to planning individual and group reading instruction.

582E Analysis of Reading Practices: Research in Reading (1)

Participation in seminars, related to student and/or instructor-sponsored research. Involvement in action-research projects, including development and evaluation of research procedures.

582F Analysis of Reading Practices: Writing for Publication—Reading (1)

Consideration in depth of the selection, organization and production of publishable materials concerning problems, strategies, techniques of the teaching of reading improvement.

582G Analysis of Reading Practices: Establishing Reading Laboratories and Learning Centers (1)

Consideration in depth of the necessities and optional features of a reading center deemed appropriate to a specific situation within a particular community.

582H Analysis of Reading Practices: Reading and the Gifted (1)

Techniques of teaching reading to the underachieving and achieving academically gifted child in grades 1–12. Methods of planning and implementing instruction to meet the unique learning abilities and needs of the gifted and to develop higher level thinking skills.

582I Analysis of Reading Practices: Assessment of Reading Specialist Competencies (1)

Assessment of competencies of students entering the Reading program in preparation for the Reading Specialist credential.

582J Analysis of Reading Practices: Teaching Reading to Adults (1)

Analysis and evaluation of current methods of teaching reading to adults, including diagnostic and corrective techniques. Analysis of current research and evaluation of materials, with emphasis on understanding special needs of the adult learner.

582K Analysis of Reading Practices: Reading and the Ethnically Different Child (1)

Graduate seminar designed to survey the affective side of teaching reading to ethnically different children.

582L Analysis of Reading Practices: Reading in Early Childhood (1)
An overview of basic readiness needs and evaluation instruments with emphasis on techniques and materials for increasing concentration, positive socialization, creativity and learning skills of preschool children.

582M Analysis of Reading Practices: The Exceptional Child in Reading (1)
Survey of the methods and materials to be effectively used in reading instruction with the physically handicapped, emotionally disturbed, learning disabled and slow learner in the regular classroom.

582N Analysis of Reading Practices: Vision and Reading (1)
Study of the relationship between vision factors and reading. Course will include screening techniques, behavioral symptoms and classroom and instructional accommodations to meet vision needs.

582O Analysis of Reading Practices: Comparative Reading (1)
Study of general trends in reading improvement in the United States and in other countries. Emphasis on developmental reading programs.

582P Analysis of Reading Practices: Fieldwork in Community Reading Clinic (1)
Fieldwork in a community reading clinic for children and adults, including both remedial and developmental instruction. May be repeated for a maximum of three units of credit.

582Q Analysis of Reading Practices: Evaluation of Textbooks (1)
Formal evaluation of reading textbooks being considered for state adoption. Materials include basals, supplementary and recreational materials, levels K–8 for state textbook adoption.

582R Analysis of Reading Practices: Elementary Reading Curriculum (1)
Modern curriculum and techniques for teaching basic reading skills, K–6.

582S Analysis of Reading Practices: Secondary Reading Curriculum (1)
Modern curriculum and techniques for teaching reading, grades 7–12.

583A Reading Improvement Casework (3)
Prerequisite: consent of instructor. Fieldwork in diagnosis and remediation in reading through casework technique. Conferences with teachers, parents, and administrators.

583B Reading Improvement Casework (3)
Prerequisite: consent of instructor. Fieldwork in assessment and instruction in reading through casework technique. Conferences and training in inservice education with teachers, parents, consultants, and administrators. Assignment in one of the Cal State Fullerton reading centers. Includes grant proposal writing and program development techniques.

584 Linguistics and Reading (4)
Prerequisite: consent of graduate adviser in reading or instructor. A study of linguistics and its influence on reading materials and instruction. An analysis of trends in reading and changes affected by the science of linguistics.

585 Word Perception Skills in Reading (3)
Study of word perception skills in the process of learning to read. A developmental hygiene of child vision. Visual anomalies and their applications to reading disorders.

595 Advanced Studies (1–3)
Graduate seminars designed to develop professional competencies in such areas as behavior, teaching strategies, educational technology, program development, communication theory and interpersonal relations. May be repeated for credit.

597 Project (1–3)
Prerequisite: consent of instructor. Individual research on an empirical project, with conferences with the instructor, culminating in a project.

598 Thesis (1–3)
Prerequisite: consent of instructor. Individual research with conferences with the instructor, culminating in a thesis.

599 Independent Graduate Research (1–3)
Prerequisite: consent of instructor. Open to qualified graduate students desiring to pursue independent inquiry.

SCHOOL ADMINISTRATION

FACULTY

Walter Beckman
Coordinator

Edward Beaubier, William Callison, Gerhard Ehmann, Tracy Gaffey, Robert Jenkins, Barbara Peterson, Kenneth Preble, Stanley Rothstein, G. E. Triplett

PART-TIME

Tom Allen, Edward Dundon, George Gustafson, Charles Kenney

MASTER OF SCIENCE IN EDUCATION

School Administration

A program of graduate studies leading to the degree of Master of Science in Education with a concentration in school administration has been authorized by The California State University and Colleges Board of Trustees. The principal objective of the curriculum is to prepare carefully selected individuals for certain leadership positions in school administration.

The program is designed to help these individuals gain the technical knowledge and scholarship requisite to high achievement in these positions. This professional program is based on and combined with sound preparation in the liberal arts and sciences. The curriculum proposes an interdisciplinary approach to the preparation of the professional specialist in public education. Thus, those who qualify for the degree should have completed coursework in such fields as philosophy, public administration, psychology, political science, biology, English, sociology, economics, anthropology or history.

Prerequisites

An applicant must meet the university requirements for admission in conditionally classified graduate standing: a baccalaureate degree from an accredited institution and a grade-point average of at least 2.5 in the last 60 semester units attempted (see section on the catalog on admission of graduates for comlete statement and procedures). In addition, an applicant should have a successful teaching experience in an elementary or secondary school, or community college. If such experience is not available, other experience in related fields is a recommended alternative, which must be approved by a graduate adviser before starting the program.

A student who meets the requirements for conditionally classified graduate standing, as well as the following requirement, may be admitted as a classified graduate upon the development of an approved study plan: at least 2.5 grade-point average in previous academic and related work.

Programs of Study

The degree study plan must include 30 units of committee-approved coursework, of which 25 must be at the 500 level. A minimum of 22 units must be in school administration; five units may be assigned on an interdisciplinary basis from courses related to the needs of individual students. Course requirements include field experience and a project.

No more than nine units of postgraduate work taken prior to classified status may be applied to a student's master's degree program.

Students concentrating in school administration will take Sch Ad 503, Foundations for Administrative Leadership, as soon as they identify their interest in this M.S. degree. To continue in the program beyond this course, the student must be granted a "letter of admission to the program" and possess an official Cal State Fullerton program evaluation. Students who desire only isolated courses from the program are normally denied admission to such courses. The adviser-approved 30 units (minimum) on the study plan will include:

	Units
Master's degree studies, supporting courses	8
Ed-RP 510 Research Design and Analysis (3)	
Adviser-approved courses (5)	
Courses for the concentration in school administration	22
All of the following (No grade below C)	
Sch Ad 505 The Supervision of Curriculum (3)	
Sch Ad 561 Governance, Systems, School and Community (3)	
Sch Ad 563 School Personnel Administration (2)	
Sch Ad 564 Seminar in School Law (2);	
Sch Ad 565 Seminar in School finance, Business Administration and buildings (2)	
Sch Ad 588 Organization Theory and Management (3)	
Sch Ad 567A,B Fieldwork and Project (2,2)	

One of the following:

Sch Ad 566 Elementary Administration and Supervision (3)
Sch Ad 586 Secondary Administration and Supervision (3)

For advisement and further information, consult the Division of Special Programs. See also "The Program of Master's Degrees" in this catalog and the *Graduate Bulletin.*

INTERNSHIP IN SCHOOL ADMINISTRATION

A selected number of teachers will be offered the opportunity to study and to practice school administration as school interns in administration. A candidate must obtain admission to the program, and agreement must be reached with a sponsoring school or college district to employ the candidate as a full-time administrator during the school year. The concept of the internship in educational administration is similar to that found in other professional fields. Its basic function is to enable the intern to gain the necessary experience in the performance of the critical tasks of his profession while under the close supervision of a fully-trained and experienced practitioner. It is an opportunity for the university and local school and college systems to work together in training well-qualified school administrators. The internship in educational administration is but one phase of the program for preparing supervisory and administrative personnel for community college, high school, intermediate school, and elementary school positions of leadership. It is an investment in training supervisory leadership from which the cooperating school district, the university and the intern will derive benefit and in which all three have responsibilities. Cooperation among all three is essential to the success of the program.

Internships are for a full academic year and require of all students the completion of a minimum of 21 graduate credits. During the period of the internship the student is required to be a registered graduate student at Cal State Fullerton.

All candidates will be given a temporary credential for supervision and administration according to the regulations of the California Administrative Code, Title V, Section 6555. Such candidates should register in two courses: Sch Ad 561, Governance, Systems, School and Community, Sch Ad 563, School Personnel Administration.

Both courses must be completed in the summer session if the student is to do his internship beginning in the fall semester. Applications for admission to the program should be sent to the chair, Internship Program in School Administration, by June 1. Careful planning of electives will enable candidates to receive the Master of Science in Education with a concentration in school administration upon further study, after completing the requirements for the internship.

ADVANCED CREDENTIAL PROGRAM

School Administration

Candidates in administration, upon completion of the degree requirements for a Master of Science in Education, should qualify for certification as a school administrator at any level providing they have taught three years. As certification requirements change yearly, candidates are urged to have their adviser check their study program against current requirements.

Candidates in administration accepted in the administrator internship program will be issued the Administrative Services Credential.

OTHER STUDENTS IN SCHOOL ADMINISTRATION

Experienced school administrators, holding a California administrative credential or a supervision credential and exempt from degree requirements, may register for any course in the school administration concentration. Teachers wishing to take courses in school administration directed at helping them to understand administration problems are welcome to take selected courses.

SCHOOL ADMINISTRATION COURSES

481 Issues in Higher Education (3)
Seminar in structure, governance, administration and challenges of American higher education.

483 The American College and University (3)
Seminar in the development of higher education in the United States with special emphasis on purposes, functions, curriculum, and governance.

485 Introduction to Educational Administration (3)
Introduction to educational administration. Course directed toward better understanding of administrative tasks, processes, and skills involved in the various roles of school personnel in administra-

tion. Special attention to the role of the teacher in a school administration.

503 Foundations for Administrative Leadership (3)

Prerequisite: consent of instructor. Seminar on cultures and values to which schools must contribute. Introduction to community sociology, tax systems and public administration; the literature of leadership. Screening for admission to program. Course required of all students during their first registration in school administration.

505 The Supervision of Curriculum (3)

Prerequisite: Sch Ad 566 or 586. Seminar on development of a quality program of instruction in both elementary and secondary schools; appraisal of programs of instruction; advanced principles of curricular review and modification. Evaluation of subject matter competence in area of supervisory specialization.

560 Contemporary Problems in School Administration (3)

Seminar on contemporary problems in school organization and administration including collective bargaining, finance, staff and school integration, declining enrollment, pupil achievement and affirmative action.

561 Governance, Systems, School and Community (3)

Structure, functions, trends, fiscal responsibilities and issues in respect to the government of education at federal, state, county and local school district levels. Basic principles in school organization and administration. Community involvement and school-community participation; communication between school and community.

563 School Personnel Administration (2)

Prerequisite: Sch Ad 503 or concurrent enrollment. Seminar on principles and techniques of school personnel management, colletive negotiations, and role definition.

564 Seminar in School Law (2)

Prerequisite: consent of instructor. School law as a reflection of public policy. California Education Code and the California Administrative Code, Title 5, and county counsel opinions as they affect administration, instruction, and financial management of public schools. Legal basis for public education in California.

565 Seminar in School Finance, Business Administration and Buildings (2)

Prerequisite: consent of instructor. Emphasis on school finance, business administration and buildings as they implement an effective educational program. A study of financial principles. School revenues and expenditures, budgetary procedures and processes, cost analysis, business management and salary policies.

566 Elementary Administration and Supervision (3)

Prerequisites: Sch Ad 561 and 563. Seminar on leadership roles of elementary school principal and supervisor. Pupil personnel and instructional program in elementary school; working relations and morale among staff, community and pupils; parent education; relations with central district staff; management and recordkeeping functions; teacher evaluation.

567A,B Fieldwork and Project (2,2)

Prerequisites: Sch Ad 566 or 586 and 510. Includes both fieldwork and project or thesis, as required for Master's Degree. Directed fieldwork provides for participation in a variety of administrative areas in selected school systems. Supervised Master's Project or Thesis required in selected problem or area approved by the instructor. (May be repeated for credit.)

568 Seminar for Administrative Trainees (3)

Provides a behavioral analysis approach in the establishment of a sound foundation for educational administrators. The culminating offering of the administrator internship program. Objectives include (1) study of the behavior of human beings and (2) understanding how theory contributes to effective administrative practice.

569 The School in the Community (3)

Seminar on the changing school in the changing community. The school and the community power structure; community involvement and school-community participation; communication between school and community; the power of community education and the community school.

586 Secondary Administration and Supervision (3)

Prerequisites: Sch Ad 561 and 563. Seminar on leadership roles of the secondary school principal and supervisor, pupil personnel and instructional program in secondary schools; development and administration of vocational education; morale among staff, community and pupils; relations with central district staff; management functions; teacher evaluation.

587 Seminar in Financial Resource Allocation (3)
Advanced finance, program budgeting, quality controls, expenditure programs, state-county-local-federal financing. Decison making in assigning financial resources. Financial accountability.

588 Organization Theory and Management (3)
Principles and practices of public school management; planning and practice in task analysis; planning and practice in setting of goals and objectives; implementation of plans related to goals; management tools, social, political and economic forces affecting education; decision making based on factual data as it pertains to education.

589 Staff Evaluation—Supervision (3)
Seminar in group work supervision techniques as they apply to improvement of teaching process; analyzing and focusing role relationships between supervisors, students, teachers, parents; classroom dynamics and role of supervisor in planning and developing educational programs.

599 Independent Graduate Research (1–3)
Prerequisite: consent of instructor. Open to qualified students desiring to pursue independent inquiry.

SPECIAL EDUCATION

FACULTY
Calvin Nelson
Coordinator
Robert Lemmon, Lester March, Leo Schmidt, Shirl Stark

MASTER OF SCIENCE IN EDUCATION

Special Education

Prerequisites

An applicant must meet the university requirements for admission in conditionally classified graduate standing: a baccalaureate degree from an accredited institution and a grade-point average of at least 2.5 in the last 60 semester units attempted (see section of this catalog on admission of graduates for complete statement and procedures).

A student who meets the requirements for conditionally classified graduate standing, as well as the following requirements, may be admitted as a classified graduate upon the development of an approved study plan: (1) a grade-point average of 2.5 or better in previous academic and related work; (2) an approved major; (3) completion of Sp Ed 371, Exceptional Individual, or alternative work on study plan as shown below under "Electives"; (4) satisfactory interview and autobiography.

Study Plan

Students should consult the *Graduate Bulletin* for information concerning standards for graduate study, steps in the master's degree program, and graduate policies and procedures.

	Units
Supporting course outside special education	3
Ed-RP 510 Research Design and Analysis (3)	
Courses for the concentration in special education (adviser-approved)	21
1. Required (10 units):	
Sp Ed 463 Exceptionality: Cognitive-Affective Characteristics (3), or	
Sp Ed 464 Exceptionality: Physical-Sensory Characteristics (3)	
Sp Ed 574 Exceptionality: Noneducational Implications (3)	
Sp Ed 575 Exceptionality: Theory, Philosophy and Research (4)	
2. Special education electives (8–10 units)	
3. One of the following (1–3 units):	
Sp Ed 595 Advanced Studies in Special Education (including comprehensive examination),	
Sp Ed 597 Project, or	
Sp Ed 598 Thesis.	
4. Electives: May be special education	6
Total	30

For advisement and further information, consult the program graduate adviser. See also "The Program of Master's Degrees" in this catalog and the *Graduate Bulletin.*

ADVANCED CREDENTIAL PROGRAMS

The curriculum in specialist preparation which appears in this section of the catalog is designed to meet the requirements of Teacher Preparation and Licensing Act of 1970 effective in September, 1974. The curricula are subject to change pending approval by the Commission for Teacher Preparation and Licensing. Students are advised to contact the special education office for appropriate publications in the event curricular modifications are introduced by commission action.

Specialist Credentials

Programs leading to four specialist credentials are available. They are:

1. Specialist credential to teach the physically handicapped (including the blind and partially seeing and orthopedically handicapped)
2. Specialist credential to teach the learning handicapped (including the learning disabilities, behavior disorders and educationally retarded)
3. Specialist credential to teach the severely handicapped (including the trainable mentally retarded, severely multiple handicapped, seriously emotionally disturbed and the autistic)
4. Specialist credential to teach the gifted

All specialist training programs include a generic component and advanced specialist component, both of which must be completed in order that a student be credentialed. Completion of the generic component is prerequisite to admission to advanced specialist component training.

Undergraduates wishing to earn an advanced specialist credential can meet the requirements of the generic component of the credential by (a) completing a bachelor's degree with a major in child development or human services with a teaching-learning practicum thrust. (b) completing the preservice professional training program for a multiple subject credential with student teaching in a regular classroom which has integrated handicapped children. For details regarding admission to and completion of the multiple subject credential, consult the Division of Teacher Education.

Graduate students entering the advanced specialist program who have completed multiple or single subject preservice training programs with majors other than human service must complete six units of courses in human services (electives in exceptionality) and six units of student teaching with exceptional children. This requirement may be fulfilled upon submission of satisfactory evidence of broad training and experience with exceptional children.

Advanced specialist programs include coursework specific to the master's degree and the several advanced specialist credentials; students may, therefore, elect one of two options upon entry to the program. These are:

1. Advanced specialist credential program
2. Master's degree program.

The advanced specialist program for each credential requires the same course sequence. However, different practicum activity sections are designed to meet the specific needs of each credential. Students seeking recommendation for any of the four credentials listed must satisfactorily complete the following:

Prerequisites

1. Bachelor's degree
2. A multiple subject or single subject credential
3. The specialist generic component of the program, including student teaching with exceptional children (12 units)

Advanced Specialist Credential Requirements

	Units
Sp Ed 463 Exceptionality: Cognitive-Affective Characteristics (3) *or* Sp Ed 464 Exceptionality: Physical-Sensory Characteristics (3)	
Sp Ed 465A,B,C or D* Educational Practices in Exceptionality (4)	
Sp Ed 573A,B,C or D* Advanced Practices in Exceptionality (4)	
Sp Ed 574 Exceptionality: Noneducational Implications (3)	
Sp Ed 575 Exceptionality: Theory, Philosophy and Research (4)	
Total (including 12 prerequisite units)	30

Advisement is available to any student seeking a credential under the special education program. During registration, the student should consult an adviser in the area in which he expects to major, as well as an adviser in special education, for assistance in selecting courses in his program. A student from another institution should bring transcripts of previous work and a tentative selection of

* See program publications regarding which sections apply to specific credentials.

courses. Transferred education courses must be of upper-division level and taken within the past 15 years to be applicable to upper division credential requirements.

SPECIAL EDUCATION COURSES

370 The Personal Quest (3)

An experience-based course exploring the factors contributing to personality. Consideration will be made concerning individual needs, how they are met by the individual, other individuals, society and society's institutions. One objective will be to explore different life styles and attempt to understand how they meet the needs of individuals involved with them.

371 Exceptional Individual (3)

The study of children who deviate from the average in the elementary and the secondary schools; physically handicapped, mentally retarded, gifted, socially maladjusted, and emotionally disturbed. Special educational services, curriculum, procedures, and materials necessary to promote their maximum development.

395 Methods and Techniques of Tutoring (3)

Lecture/Practicum in tutoring theory and methods, use of diagnostic test and survey questionnaires in determining student needs. In conjunction with tutorial practice, student will receive practical training, utilize audiovisual equipment and autoinstructional materials at the Learning Assistance Resource Center.

463 Exceptionality: Cognitive-Affective Characteristics (3)

Seminar in the study of individuals who deviate from the norm with respect to cognitive and emotional functioning including the educable mentally retarded, gifted, slow learner, behaviorally disordered and emotionally disturbed.

464 Exceptionality: Physical-Sensory Characteristics (3)

Seminar in the study of individuals who deviate from the norm with respect to physical-sensory functioning including the visually handicapped, multiply handicapped, physically handicapped, and trainable mentally retarded.

465A Exceptionally Educational Practices with the Learning Handicapped (4)

Corequisite: Sp Ed 464. Curriculum development, methods and materials for teaching the learning handicapped. Lectures, demonstrations and practicum relative to the credential requirements.

465B Exceptionality: Educational Practices for the Severely Handicapped (4)

Corequisite: Sp Ed 464. Curriculum development, methods and materials for teaching the severely handicapped. Lectures, demonstrations and practicum relative to the credential requirements.

465C Exceptionality: Educational Practices for the Physically Handicapped (4)

Corequisite: Sp Ed 464. Curriculum development, methods and materials for teaching the physically handicapped. Lectures, demonstrations and practicum relative to the credential requirements.

465D Exceptionality: Educational Practices for the Gifted (4)

Corequisite: Sp Ed 463. Curriculum development, methods and materials for teaching the gifted. Lectures, demonstrations and practicum relative to the credential requirements.

473 Mental Retardation and Brain Injury (3)

Prerequisite: Sp Ed 371. Organic and cultural basis of mental retardation and brain injury, including social, psychological, and vocational problems. Child growth, sensory development, learning characteristics of mentally retarded and brain injured children, and techniques of working with parents will be considered.

474 Curriculum and Methods for Teaching the Mentally Retarded (3)

Prerequisite: Sp Ed 473. Curriculum development, methods, and materials for teaching the educable and trainable mentally retarded at the elementary and secondary levels.

475 Observation and Individual Instruction with the Mentally Retarded (3)

Prerequisite: Sp Ed 474. Supervised observation and participation with the educable and the trainable mentally retarded at both the elementary and secondary levels of education. (4 hours activity, 1 hour lecture and discussion)

477 The Educationally Handicapped Child (3)

Prerequisite: Sp Ed 371. Behavioral characteristics of the educationally handicapped child, the child with a neurological handicap or a behavioral disorder as defined by the California Education Code. Educational procedures, perceptual and motor training, evaluation, parent guidance.

478 Innovations in Special Education (3–6)
Acquaints teachers and administrators with recent, dynamic and innovative methodologies and concepts related to the atypical child. Emphasis on assisting participants to update their present knowledge and skills through implementing new thought as it relates to special education.

495 Innovative Teaching/Learning Seminar/Practicum (1–3)
Prerequisite: Sp Ed 395 or consent of instructor. Seminar/practicum in developing and field testing innovative teaching/learning strategies for educationally disadvantaged and other students. Includes assessment of individual tutee's entry skills, specification of terminal behaviors, development, implementation of instructional objectives and evaluation of instructional outcomes.

499 Independent Study (1–3)
Prerequisites: senior or graduate standing and consent of instructor. Student will complete individual studies under the direction of faculty member. Studies include experimental, library, or creative projects. Only students of demonstrated capacity and maturity will be approved.

514 Graduate Seminar: Behavioral Research on Children with Learning Disorders (3)
Prerequisite: Ed-RP 510. Critical analysis of behavioral research on children with learning disorders. Resources, criteria for evaluation of studies with exceptional children, historical view of research. Research relating to learning, handicapping conditions, and efficacy of special methods.

521 Group Processes in the Classroom (3)
Prerequisite: Sp Ed 371 or consent of instructor. Exploration of group interaction, teacher sensitivity, and their relevance to educational planning and management. Emphasis: emotionally disturbed, educationally handicapped.

522 Behavior Problems in the Classroom (3)
Prerequisite: Sp Ed 371 or consent of instructor. Identification and management of social and affective disturbances related to school performance. Emphasis: early detection, behavioral modification techniques, parent counseling, interagency cooperation.

523 Learning Problems in the Classroom (3)
Prerequisite: Sp Ed 371 or consent of instructor. Identification and educational management of learning problems. Emphasis: developmental sequences, related prescriptive teaching and remediation techniques.

570 Graduate Seminar in Educational Psychology: Advanced Developmental Psychology (3)
Prerequisite: consent of instructor. Research, theory and practice in the physical-motor development, cognitive-intellectual growth and effective-personality organization of children and adolescents. Focus is given to educational interventions as a means of problem solving.

573A Exceptionality: Advanced Practices for the Learning Handicapped (4)
Prerequisites: Sp Ed 463 and 465A. Advanced instruction in the application of educational practices working with the learning handicapped. Seminar and fieldwork practicum will be undertaken at selected sites in the community at large.

573B Exceptionality: Advanced Practices for the Severely Handicapped (4)
Prerequisites: Sp Ed 464 and 465B. Advanced instruction in the application of educational practices working with the severely handicapped. Seminar and field work practicum will be undertaken at selected sites in the community at large.

573C Exceptionality: Advanced Practices for the Physically Handicapped (4)
Prerequisites: Sp Ed 464 and 465C. Advanced instruction in the application of educational practices working with the physically handicapped. Seminar and fieldwork practicum will be undertaken at selected sites in the community at large.

573D Exceptionality: Advanced Practices for the Gifted (4)
Prerequisites: Sp Ed 463 and 465D. Advanced instruction in the application of educational practices working with the gifted. Seminar and fieldwork practicum will be undertaken at selected sites in the community at large.

574 Exceptionality: Noneducational Implications (3)
Prerequisite: admission to graduate status. Consideration of economic and social implications of exceptionality. Advanced investigations regarding different aspects of the adjustment of the exceptional individual to society and of society's accommodation to the individual.

575 Exceptionality: Theory, Philosophy and Research (4)
Prerequisites: admission to graduate status and consent of instructor. A consideration of theories, philosophies and evaluation strategies dealing with exceptional individuals, critical evaluation of research on exceptionality and the consideration of investigatory models for studying exceptionality.

595 Advanced Studies (1–3)
Graduate seminars designed to develop professional competencies in such areas as behavior, teaching strategies, educational technology, program development, communication theory and interpersonal relations. May be repeated for credit.

596 Graduate Educational Practicum (1–3)
Prerequisite: consent of instructor. Conduct at a graduate level an educational practicum experience with an individual under the direction of a faculty member. May be repeated for a maximum of six units.

597 Project (1–3)
Prerequisite: consent of instructor. Individual research on an empirical project, with conferences with the instructor, culminating in a project.

598 Thesis (1–3)
Prerequisite: consent of instructor. Individual research with conferences with the instructor, culminating in a thesis.

599 Independent Graduate Research (1–3)
Prerequisite: consent of instructor. Open to qualified graduate students desiring to pursue independent inquiry.

POST-BACCALAUREATE COURSES

305 Student Teaching with Exceptional Children (6)
Prerequisite: consent of instructor. Participation in a class for exceptional children for greater part of every school day. Includes a two-hour seminar each week in problems and procedures for teaching exceptional children.

DEPARTMENT OF ATHLETICS

Neale Stoner
Director

Leslie Bleamaster, Patrick Callahan, James Colletto, John Culwell, Nancy Dunkle, Robert Dye, August Garrido, Orbin Hanks, Jerry Lloyd, Donald Matson, Lynn Rogers, Warren Simmons, Melvin Sims, David Snow, Larry Welsh, V. Richard Wolfe, Ernest Zermeno

DEPARTMENT OF HEALTH EDUCATION, PHYSICAL EDUCATION AND RECREATION

FACULTY

Jean Barrett
Chair

FACULTY

Gene Adams, C. Ian Bailey, Katharine Barthels, Margaret Elliot, M. William Fulton, Eric Hanauer, Tracy Hetrick, Elmer Johnson, Alexander Omalev, Paul Pastor, Kenneth Ravizza, Roberta Rikli, Iva Diane Ross, Virginia Scheel, Janice Stevenson, Eula Stovall, Carol Weinmann, Ronald Witchey, Michael Yessis

BACHELOR OF SCIENCE IN PHYSICAL EDUCATION

The Department of Health Education, Physical Education and Recreation offers the Bachelor of Science in Physical Education for students preparing to teach, for those preparing to pursue graduate work in physical education and for those preparing tor careers in business, industry and government service. The degree consists of 124 units with a maximum of 12 lower division units and a minimum of 33 upper division units in physical education.

Transfer students must request transcripts of records of all previous scholastic work from each university or college attended. These transcripts are in addition to those required for admission to the university and must be sent by the issuing institution directly to the chair, Department of Health Education, Physical Education and Recreation.

All transfer students must have transcripts evaluated by the department undergraduate adviser prior to registration.

MAJOR IN PHYSICAL EDUCATION

Lower Division (Maximum of 12 units)

Required Courses:

PE 260 Movement Anatomy 3 units

A minimum of six courses, one from each of the following areas:

Fitness: PE 100, Physical Conditioning; 102, Jogging; 103, Track and Field; 102, Gymnastics; 144, Exercise Weight Control.

Aquatics: PE 110, Swimming; 111, Life Saving; 112, Water Polo; 114, Skin Diving; 115, Synchronized Swimming; 116, Springboard Diving; 214, Basic Scuba.

Combatives: PE 150, Wrestling; 151, Aikido; 152, Karate; 154, Self-Defense; 155, Fencing; 156, Sabre; 157, Epee.

Individual Sports: PE 104, Horseback Riding; 105, Cycling; 106, Skiing; 107, Ice Figure Skating; 108, Roller Skating; 117, Bowling; 118, Archery; 119, Golf; 125, Rock Climbing.

Court/Racquet Sports: PE 130, Badminton; 131, Tennis; 132, Racquetball; 133, Handball.

Team Sports: PE 160, Baseball; 161, Softball; 162, Lacrosse; 163, Field Hockey; 164, Volleyball; 165, Soccer; 166, Team Handball; 167, Basketball; 168, Basic Football; 169, Flag Football.

(Intercollegiate sports course may be applied in the appropriate area.)

A maximum of 12 lower division units may be counted toward completion of the major. However, students may elect to take upper division work in lieu of further lower division work excluding requirements stated above. All work taken at other institutions as lower division work must be counted as such at Cal. State Fullerton.

Upper Division (Minimum of 33 units)

***Required courses* (18 units):**

Theoretical and Practical Bases (9 units):

PE 371, Theory and Principles of Human Motor Learning	(3)
PE 300, Principles of Movement	(3)
PE 352, Physiology of Exercise (1 unit lab optional)	(3)

Contemporary understandings (9 units):

PE 381, Physical Activity in Cultural Perspectives	(3)
Two courses selected from the following:	6
PE 380, History of Physical Education	(3)
PE 480, Sport Psychology	(3)
PE 482, Sport Sociology	(3)

***Electives:* (Minimum 15 units)**

Upper division physical education courses to complete the required 45 units for the major. To be selected under advisement.	—
Total	45

TRACKS

In order to help students in selecting coursework, the Department of Health Education, Physical Education and Recreation has identified 10 tracks which can help prepare students for careers in the field or for graduate study. These tracks are advisory only, but can be valuable to the student in meeting academic and career objectives. Detailed information on the various tracks is available in the department office. Students are encouraged to contact the adviser in the area of choice for advisement in planning the course of study. Career opportunities for students who major in physical education are available in:

Elementary and Secondary Teaching
Coaching
Athletic Training
Physical Education for the Handicapped
Sports Careers
Humanities—Arts
Sports Medicine
Human Factors
Health
Recreation

Proficiency Requirements for Major and Minor Students

Activity courses should be taken to meet the prerequisite requirements for any analysis series course the student plans to take. Proficiency screening tests are administered in the analysis classes at the beginning of the semester.

MINOR IN PHYSICAL EDUCATION

A physical education minor was under revision at the time this catalog was being published. Information about the minor is available at the department office.

REQUIREMENTS FOR PHYSICAL EDUCATION MAJORS SEEKING A TEACHING CREDENTIAL

The university program for meeting the *basic* requirements for the teaching credential with a specialization in physical education (K–12) can be found elsewhere in this catalog (see School of Human Development and Community Service, Division of Teacher Education). Additional requirements of the Department of Health Education, Physical Education and Recreation are as follows:

1. **Required Coursework**
   In addition to, or as part of, the requirements for a major in physical education all candidates for the credential must complete the following with a minimum of a "C" grade:
   PE 300 Principles of Movement
   PE 349 Measurement and Evaluation in Physical Education
   PE 371 Theory and Principles of Human Motor Learning
2. **Competency in Subject Matter of Physical Education**
   All candidates for the credential must adequately demonstrate their competency in subject matter scope and content of physical education. The major areas of emphasis identified by the Physical Education Advisory Panel of the Commission for Teacher Preparation and Licensing include: (1) biological foundations, (2) sociological foundations, (3) psychological foundations, (4) historical-philosophical foundations, (5) evaluation and measurement, (6) health and safety concepts relating to physical activity and (7) instructional subject matter.
3. **Instructional Subject Matter of Physical Education**
   Students seeking a credential with a specialization in physical education from this institution must be able to demonstrate their competency in instructional subject matter which is a part of the *regular* physical education program of the public schools. The Department of Health Education, Physical Education and Recreation specifically requires the following:
   a. Ability to perform and analyze basic movement skills common to a large number of instructional physical activities.
   b. Adequate background and preparation to demonstrate breadth of understanding of the scope and content of physical education.
   c. Strong background and preparation in a *minimum of three* designated areas of physical education * to demonstrate "in-depth" understanding and ability to apply understandings to the teaching learning situation. At present the areas identified by the Teacher Education Advisory Council of the Physical Education Department include: (1) team sports, (2) individual sports, (3) dual sports, (4) dance, (5) aquatics, (6) recreational (must be instructional in nature), (7) environmental, (8) developmental, (9) special programs and (10) coaching.
4. **Admission to Teacher Education**
   In addition to the requirements set forth elsewhere in this catalog, the Department of Physical Education requires candidates to submit to an extensive review of qualifications for teaching. This review includes additional written documentation, and a personal evaluation by a select faculty committee.
   Acceptance into the program allows the candidate to enroll in a two semester sequence:
   First semester: Ed-TE 440F, Ed-TE 440S, Ed-TE 440R (optional), PE 442.
   Second semester: Ryan credential—PE 449A,B
5. **The Teacher Education Program in the Department of Health Education, Physical Education and Recreation is Under Revision. For Additional Information, Please Consult With the Teacher Education Adviser In Physical Education, or the Physical Education Office for Teacher Education.**

* Students are urged to consult with the teacher education adviser of the department before submitting documents required for establishing subject matter competency.

MASTER OF SCIENCE IN PHYSICAL EDUCATION

The program of studies is designed: (1) to prepare master teachers at the college level; (2) to improve the professional background and competence of those in the field; (3) to prepare scholars who wish to pursue a doctoral program in physical education; and (4) to prepare students for sports related careers in fields other than teaching.

Admission to Graduate Standing: Conditionally Classified

An applicant must meet the university requirements for admission in conditionally classified graduate standing: a baccalaureate degree from an accredited institution and a grade-point average of at least 2.5 in the last 60 semester units attempted (see section of this catalog on admission of graduates for complete statement and procedures).

Admission to Graduate Standing: Classified

A student who meets the requirements for conditionally classified graduate standing, as well as the following requirements, may be admitted as a classified graduate upon development of an approved study plan:

1. completion of 24 approved upper division units in physical education
2. a grade-point average of 3.0 or better, for all upper division work taken in physical education. (Contingency provisions: grade point deficiencies in individual courses in physical education may be met by taking 6–12 hours of approved courses at Cal State Fullerton, and earning a 3.0 GPA in these courses. Such courses, while counted toward the prerequisites for the master of science program, may not be used to fulfill the program requirements.)
3. three satisfactory letters of recommendation

Study Plan

The degree study plan normally consists of 30 units of graduate coursework with a GPA of 3.0 or better. Coursework shall include a minimum of 18 units of 500-level courses of which 8–10 units are required. Further work includes 8–10 units of 500-level physical education courses and a maximum of 12 units of electives. A thesis or a project and an oral examination at the conclusion of the program are required; a written examination may also be required.

	Units
Required	8–10
PE 508 Statistical Methods in Physical Education (3)	
PE 510 Research in Physical Education (3)	
PE 598 Thesis (4) or PE 597 Project (2)	
Study plans shall be developed from the following list of approved courses with adviser's approval.	
Approved 500-level physical education	8–10
PE 505 Seminar in Sports Administration (3)	
PE 515 Current Issues in Physical Education (3)	
PE 516 Philosophical Bases of Physical Education (3)	
PE 520 International Physical Education (3)	
PE 530 Administration of Physical Education (3)	
PE 532 Curriculum Design in Physical Education (3)	
PE 533 Facilities Development and Planning (3)	
PE 534 Supervision: Instructional Facilitation (3)	
PE 540 Seminar in Adapted Physical Education (3)	
PE 550 Internship (3)	
PE 551 Advanced Study in Physiology of Exercise (3)	
PE 552 Human Bio-Kinetics (3)	
PE 554 Advanced Study in Motor Behavior (3)	
PE 555 Scientific Bases of Training (3)	
*PE 596 Advanced Studies in Physical Education (1–3)	
*PE 599 Independent Research (1–3)	
Electives	12

Twelve units of coursework are selected with adviser's approval which would be supportive of the individual student's stated goals for graduate study. Coursework may be selected from the following categories in any combination:

1. 500-level coursework in physical education.

* PE 596 and 599 may be applied to the major area of study and/or the secondary area of optional electives.

2. 400-level coursework in physical education approved by the department's Graduate Studies Committee for graduate students.
3. Graduate or upper division coursework approved for graduate students from other departments within the university.

Total 30

For further details, consult the graduate studies adviser, Department of Health Education, Physical Education and Recreation.

See also "The Program of Master's Degrees" in this catalog and the *Graduate Bulletin.*

HEALTH EDUCATION COURSES

101 Personal and Community Health (2)

Consideration of critical health issues as they relate to modern man. Physical, mental and social health and safety issues involved in everyday living are investigated.

102 Prevention and First Aid (2)

Study of the hazards in man's environment and the common accidents related thereto. Emphasis is placed upon both the care and prevention of accidents. Students (upon successful completion of requirements) will be granted standard first aid certification by the American Red Cross.

250 Exercise, Sport and You (3)

(Same as PE 250)

321 Drugs and Society (3)

Critical study of habit-forming substances such as alcohol, tobacco, narcotics and related drugs. Social and legal aspects of the drug problem are also considered.

410 Health Education for Teachers (3)

Topics will include school health, drug education, family living community health teaching philosophy and strategy. For students seeking California teaching credential.

PHYSICAL EDUCATION COURSES

General Education Requirements:

There are no specific health and physical education requirements for students entering the university under this catalog. However, courses in health and physical education may be applied toward general education requirements in Category II-D, Electives. Students who entered the university prior to fall, 1976 should refer to previous catalogs which allow coursework in health and physical education to apply toward general education requirements in Category IV, Basic Subjects, in addition to Category V, Electives.

100–169 Activity Courses (1)

May be offered for different skill levels. PE 100 Physical Conditioning; 101 Athletic Conditioning; 102 Jogging; 103 Track and Field; 104 Horseback Riding; 105 Cycling; 106 Skiing; 107 Ice Figure Skating; 108 Roller Skating; 110 Swimming; 111 Life Saving; 112 Water Polo; 114 Skin Diving; 115 Synchronized Swimming; 116 Springboard Diving; 117 Bowling; 118 Archery; 119 Golf; 120 Gymnastics; 125 Rock Climbing; 130 Badminton; 131 Tennis; 132 Racquetball; 133 Handball; 142 Children's Games; 143 Adapted Physical Education (C/NC only); 144 Exercise Weight Conrol; 150 Wrestling; 151 Aikido; 152 Karate; 154 Self Defense; 155 Fencing; 156 Sabre; 160 Baseball; 161 Softball; 162 Lacrosse; 163 Field Hockey; 164 Volleyball; 165 Soccer; 166 Team Handball; 167 Basketball; 168 Football Fundamentals; 169 Flag Football

170–189 Intercollegiate Sports (2) (Formerly 170 Intercollegiate Sports (W) and 180 Intercollegiate Sports (M)

Prerequisite: consent of coach. An intercollegiate activity experience in individual or team sports in an educational setting under the direction of a coach who directs the activity to meet the needs and interest of the student. PE 170 Gymnastics (M) (W); 171 Golf (M); 175 Tennis (M) (W); 176 Wrestling (M); 177 Fencing (M) (W); 178 Basketball (M) (W); 179 Baseball (M); 180 Soccer (M); 184 Football (M); 185 Volleyball (W).

190 Team Management (2)

Prerequisites: consent of coach, undergraduate studies adviser and department chair. Field experience in the management of an intercollegiate sport. May be repeated for maximum of eight units of credit. (c/nc only.)

201 Introduction to Physical Education and Recreation (3)
Introduction to physical education programs in public and private agencies, personal, social and professional requirements of the physical education teacher and recreation leader, includes the origin and development of the professions of health education, physical education and recreation with emphasis upon their significance and function in contemporary American culture.

206 Techniques of Officiating Team Sports (2)
Analysis of officiating techniques and rules necessary for officiating team sports. May be repeated for various sports or combination of sports. (1 hour lecture, 2 hours activity)

210 Water Safety Instructor (2)
Prerequisite: PE 111 (Life Saving) or equivalent and consent of instructor. This course prepares the student to teach swimming and life saving and to supervise aquatic programs. Successful completion of this course will qualify the student for certification as an ARC water safety instructor. (1 hour lecture, 2 hours activity)

214 Basic Scuba (2)
Prerequisite: PE 114, (Skin Diving) or ability to swim 400 yards, tread water one minute and swim 25 yards underwater. Techniques of skin and scuba diving, theory of diving, safety procedures, and ocean environment. Successful students will receive NAUI basic scuba certification.

220 So You Want To Be a Coach (2)
Introduction to coaching with emphasis on leadership, teaching and personal traits. Discussion of motivation, social, medical and physical hazards of coaching. The novice coach, responsibilities, administration and effects of superstition and myths. Application procedures, résumé and interview. Problem areas, co-ed, etc.

250 Exercise, Sport and You (3)
A lecture-laboratory experience for non-majors to develop a working understanding of physical activity as it contributes to optimal health throughout life. Same as HE 250. (2 lecture and 2 lab sessions weekly.)

260 Movement Anatomy (3) (Formerly 360)
The musculo-skeletal system and its function in human movement. Emphasis on muscle function involved in exercise and sport activities.

300 Principles of Movement (3)
Prerequisite: PE 260 or equivalent human anatomy. Understanding of the basic principles of movement and their application to general movement patterns as applied to sport and human movement.

302–319 Analysis of Sports (2)
Prerequisite: prior experience in the specific sport(s) to be studied. Must demonstrate adequate proficiency in such sport(s). Analysis of specific sport(s), including game play and skill performance. Emphasis on understanding the specific nature of the activity. 302 Analysis of Track and Field; 304 Analysis of Swimming; 305 Analysis of Golf; 306 Analysis of Gymnastics; 308 Analysis of Soccer; 309 Analysis of Badminton/Racquetball; 311 Analysis of Handball, 312 Analysis of Tennis; 314 Analysis of Wrestling; 315 Analysis of Fencing; 316 Analysis of Volleyball; 317 Analysis of Basketball; 319 Analysis of Softball.

320–339 Techniques of Coaching: Sports (2)
To prepare the student to coach specific individual and team sports. Coaching techniques, conditioning of athletes, budget preparation, purchase and care of equipment, scheduling and design and care of facilities. 321 Track and Field; 323 Swimming and Diving; 327 Wrestling; 328 Gymnastics; 332 Tennis; 334 Baseball; 335 Football; 337 Basketball; 338 Volleyball. *A maximum of 6 units may be applied toward completion of the units required for the major.*

343 Intermediate Scuba (2)
Prerequisite: basic scuba certification. Application of scuba diving, including photography, navigation, salvage, game hunting, night diving and others. Successful students will receive NAUI advanced scuba certification.

345 Underwater Photography (2)
Prerequisite: basic scuba certification. Fundamentals of photography in the underwater environment. Topics include equipment, underwater camera techniques, flash, and macrophotography. Lecture and activity.

347 Organization and Administration of Physical Education (3)
Cases studies involving human physical performance. Sequence of activities, individual needs, institutional patterns of organization and programming.

348 Organization and Administration of Intramural Sports (2)
Organization and administration of intramural sports programs at the elementary, secondary and college level. Selected fieldwork is included.

349 Measurement and Evaluation in Physical Education (3) (Formerly 420)
The development and use of tests and measurements in physical education in the evaluation of objectives, programs and student achievement.

351 Principles of Conditioning (3)
Fundamentals of conditioning for those who plan to coach. Includes specific programs such as circuit training, nutrition, motivation, weight control and kinesiology factors for women's and men's athletics.

352 Physiology of Exercise (3)
The study of physiological processes in physical activities and the effects of training upon performance. (3 hours lecture, lab optional)

352L Physiology of Exercise Laboratory (1)
Concurrent enrollment in PE 352 required. (3 hours laboratory)

363 Developmental Adaptations of Atypical (3) (Formerly 318)
The study and selection of activities and programs for students physically unable to participate in the regular physical education program.

364 Motor Development (3)
Prerequisite: Anatomy and PE 352, or instructor's consent. Life span motor development including: age, sex, ethnic, cultural and perceptual components; their implications and the main course of action needed in developmental strategies for optimal motor behavior development.

365 Prevention and Care of Athletic Injuries (3)
Prerequisites: upper division standing, HE 102 (or equivalent) and consent of instructor. Designed to assist trainers, coaches, physical education instructors, health educators, YMCA and playground personnel, and athletes in the prevention and care of athletic injuries. Emphasis on practical applications as well as theory. (2 hours lecture, 2 hours activity)

366 Advanced Prevention and Care of Athletic Injuries (3)
Prerequisites: upper division standing, PE 365, or consent of instructor. Prevention and care of athletic injuries, administrative responsibilities, usage of advanced treatment modalities, preconditioning, and rehabilitation. (2 hours lecture, 2 hours activity)

371 Theory and Principles of Human Motor Learning (3)
Current theories and variables related to human performance with special emphasis on information processing as an explanation of motor learning and motor memory.

372 Physical Education and Human Development (3)
Prerequisite: consent of instructor or department chair required for physical education majors. Emphasis on characteristics of the child, particularly as these relate to physical growth and development; basic mechanical principles underlying efficient movement; and programs for physical needs of children in the elementary school.

373 Movement Concepts in Physical Activity (3)
Various forms of physical activity in terms of the four elements of movement: space, force, time, and flow. Study will include observation, participation, analysis, and synthesis of a wide range of movement experiences.

380 History of Physical Education (3)
Historical development of thought and practice in athletics and physical education in American education.

381 Cultural Perspectives of Physical Activity (3)
An interdisciplinary approach to the examination of physical activity in the cultural milieu. Study will cover historical and contemporary interpretations of the role of play, games and sports, dance and recreation in human life.

396 Tutorial (1)
Prerequisites: consent of instructor, tutorial adviser and department chair. Student aide in general education activity classes. May be repeated for maximum of six units of credit.

401 Advanced Study in Performance: Track and Field (2)
Prerequisites: Analysis of Track and Field or consent of instructor. An in-depth study of skills, techniques and strategy of top level performance in track and field. Included is the theory and analysis of outstanding performance.

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406 Advanced Study in Performance: Gymnastics (2)
Prerequisites: Analysis of Gymnastics or consent of instructor. An in-depth study of skills, techniques and strategy of top level performance in gymnastics. Included is the theory and analysis of outstanding performance.

412 Advanced Study in Performance: Badminton and Tennis (2)
Prerequisites: Analysis of Badminton and Tennis or consent of instructor. An in-depth study of skills, techniques and strategy of top level performance in badminton and tennis. Included is the theory and analysis of outstanding performance.

425 Special Programs: Physical Education (1–3)
Prerequisite: upper division standing. Group investigation of selected topics determined by professionals in the field. May be repeated for credit.

442 Teaching Physical Education in the Secondary School (3)
Prerequisite: admission to teacher education. Deals with objectives, methods and materials of teaching physical education at the secondary school level. Required before student teaching. Course is part of the 12-unit education block and may not be taken separately.

449A Student Teaching Physical Education in the Secondary School (10)
See description under Division of Teacher Education. (n/nc only.)

449B Student Teaching Seminar (2)
See description under Division of Teacher Education. (c/nc only.)

451 Sports Medicine (3) (Formerly 440)
Prerequisites: upper division standing, PE 352 or its equivalent or consent of instructor. The study of various factors (environmental, nutritional, etc.) which alter the typical physiological response to exercise and training.

452 Physical Performance Testing and Counseling (3)
Prerequisite: upper division standing in physical education; Exercise (PE 352), Principles of Conditioning (PE 351) and Sports Medicine (451) are recomended. Testing and counseling techniques used to assess and develop physical performance. Physical performance as a factor in the improvement of general health.

461 Biomechanics (3)
Prerequisite: PE 300 or consent of instructor. An in-depth study of the application of biomechanics to the analysis of human movement.

473 Motor Impairment in Children (3)
Prerequisite: PE 364 or instructor's consent. Identification of abnormal motor behavior of neurologically handicapped children. Assessment factors, development of educational and/or therapeutic models of remediation and action strategies. Disorders of neuromotor, convulsive, impulsive and minimal dysfunction child syndrome.

480 Sport Psychology (3)
Discussion and analysis of literature, research and issues dealing with psychological aspects of play, games and sport. (Same as Psychology 436)

482 Sport Sociology (3)
Prerequisite: PE 382 or consent of instructor. A macro-analysis of sport in society. The relationships between sport and social institutions and social processes. The utility of the sociological perspective for understanding sport as a social phenomenon.

496 Physical Education Practicum (1–3)
Prerequisite: consent of faculty sponsor, field supervisors, departmental coordinator, and department chair. Participation as an assistant in planning, preparing, coaching, teaching in public school, college, or community physical education or recreation programs. May be repeated for a maximum of six units of credit. Credit/No credit only.

499 Independent Study (1–3)
Prerequisites: upper division standing and consent of instructor supervising the study, undergraduate adviser and department chair. Independent inquiry into problems of topics of special interest beyond the scope of regular coursework. May be repeated for credit up to six units.

505 Seminar in Sports Administration (3)
Prerequisite: graduate status. Management approaches related to the administration of commercial and professional sports including office management, radio and TV negotiations, public relations, arena and stadium management, ticket sales, the legal aspects and the supervision of the medical aspects of professional sports.

508 Statistical Methods in Physical Education (3)
Prerequisite: PE 349 or equivalent. Includes statistical theory, data collection procedures, techniques or analysis of data and interpretation of data related to physical education.

510 Research in Physical Education (3)
Prerequisite: graduate status. The role and functions of research in physical education included are the different types of research with tools of and equipment for the respective research. Selection and development of research problems and critique of completed studies are stressed.

515 Current Issues in Physical Education (3)
Prerequisite: graduate status with a major or minor in physical education. A study of current problems and issues in physical eduction through a critical analysis of the literature in the field and research findings.

516 Philosophical Bases of Physical Education (3)
Prerequisite: graduate status with a major in physical education. Identification of philosophical schools of thought as related to physical education including the role of the philosophical process. Examination and application of the philosophical process in physical education.

520 International Physical Education (3)
Prerequisite: graduate status with a major in physical education. An in-depth study of the theory and practice of physical education and sports in selected foreign countries. Evaluation of foreign physical education programs in relation to programs witnessed in the United States.

530 Administration and Supervision of Physical Education (3)
Prerequisite: graduate status with major in physical education. An in-depth study and critical analysis of existing programs in physical education in terms of established evaluative criteria and norms of practice.

532 Curriculum Design in Physical Education (3)
Prerequisite: graduate status with a major in physical education. Curriculum development models and factors influencing curriculum development in physical education. For any professional physical educator who may be involved in the curriculum development and/or improvement of a physical education program.

533 Facilities Development and Planning (3)
Prerequisites: graduate status and a major in physical education. Analysis of new trends and research in the development of indoor and outdoor facilities in planning programs in health education, physical education and recreation with special emphasis upon design, safety, features, site selection, building construction and equipment needs.

534 Supervision: Instructional Facilitation (3)
Prerequisite: teaching experience in physical education, PE 532, or consent of instructor. An analysis of problems and practices in teacher supervision with special reference to the fields of curriculum and instruction in physical education, incorporating the use of audio and videotapes to analyze and improve teaching and supervisory effectiveness.

540 Seminar in Adapted Physical Education (3)
Prerequisite: PE 363 or consent of instructor. A synthesis of concepts and evidence from physical education and other disciplines that have concerns for physical activity for the atypical population. Alternative age concepts and program development, research, or administration at local, state or national levels.

550 Internship (3)
Prerequisite: PE 505 and classified status. On-the-job training experiences under the supervision of a fully trained practitioner in the field. Requirements include 10 hours per week of on-the-job training and 1 hour weekly conference with instructor. May be repeated once for credit.

551 Advanced Study in Physiology of Exercise (3)
Prerequisite: PE 352 or equivalent. A study of advanced theories of exercise and physiological function.

552 Human Bio-Kinetics (3)
Prerequisite: PE 461 or equivalent background in biomechanics. A study of advanced biomechanical analysis and examination of current research.

554 Advanced Study in Motor Behavior (3)
Prerequisites: graduate status, PE 371 or consent of instructor. An in-depth study of current issues in the area of motor behavior.

555 Scientific Bases of Training (3)
Prerequisites: graduate status, coursework in kinesiology, physiology of exercise, bio-kinetics and

consent of instructor. Detailed study of contemporary training with specific attention to the development of those qualities involved in various sports. Experience in evaluation of the effects of training.

597 Project (2)

Prerequisites: PE 508, 510 and consent of project committee. Individual work on an empirical problem. Conferences with project chair and committee, culminating in a project.

598 Thesis (4)

Prerequisites: PE 508, 510 and consent of thesis committee. Individual research on an empirical problem. Conferences with thesis chair and committee, culminating in a thesis.

599 Independent Research (1–3)

Prerequisites: graduate status and consent of the faculty adviser and department chair. Research for qualified graduate students desiring to pursue independent inquiry. May be repeated for credit.

RECREATION COURSES

203 Recreation Programs and Activities (2)

Prerequisite: consent of instructor. Theory and activity course, leadership in recreation programs, activities in recreation agencies. Laboratory experiences and practice included. (1 hour lecture, 2 hours activity)

204 Camping and Camp Leadership (3)

A study of camping designed to make a person become a more skillful camper, to understand better the values of camping and to prepare students to organize and discuss camping activities and the role of the counselor. (2 hours lecture, 2 hours activity)

208 Recreational Film-Making (2)

The theory and practice of the art of creative film-making as it pertains to the field of recreation. (1 hour lecture, 2 hours activity)

DIVISION OF TEACHER EDUCATION

FACULTY

Donald Pease

Chair

Betty Jean Barnes, Carol Barnes, Ida Coppolino, James Cusick, Kenneth Doane,* Mildred Donoghue, Manuel Escamilla, James Gilmore, Shirley Hill, Emma Holmes, Paul Kane, Bernard Kravitz, Edith McCullough, Eugene McGarry, Robert McLaren, Bryan Moffet, Fraser Powlison, Nancy Reckinger, Morris Sica, Robert Simpson, Anthony M-Vega

SECONDARY EDUCATION TEACHING METHODS FACULTY

James Alexander (Journalism Education), Martha Baker (Music Education), Jean Barret (Physical Education), John Benham (Music Education), Carol Chadwick (Music Education), John Cooksey (Music Education), Ida Coppolino (Social Science Education), Gerald Gannon (Mathematics Education), Kaye Good (Speech Education), Justin Gray (Music Education), Donald Henry (Theatre Education), Tracy Hetrick (Physical Education), Jacqueline Kiraithe (Foreign Languages Education), Joseph Landon (Music Education), Edith McCullough (Business Education), Benton Minor (Music Education), Sallie Mitchell (Theatre Education), David Pagni (Mathematics Education), Albert Porter (Art Education), Lawrence Przekop (Science Education), Nancy Reckinger (Social Science Education), Clarence Schneider (English Education), Morris Sica (Social Science Education), Eula Stovall (Physical Education), H. Erick Streitberger (Science Education), Irene (Nims) Thomas (English Education), John White (English Education), Charles Williams (Science Education), George Williams (Art Education), Jon Zimmermann (Foreign Languages Education).

PART-TIME

Allan Baber, Edwin Carr, Dorte Christjansen, Gay Collins, Marcia Cook, Kathy Hammons, Dan Harrington, Grace Moody, Virginia Pickering, Nelson Rowen, Michael Trapp.

The courses, programs and services of the division are directed toward the following objectives of students:

1. Master of Science in Education with concentration in elementary curriculum and instruction.

* University administrative officer.

2. Preservice teacher education (elementary school, secondary school, community college).
3. Specialist's Credentials (Ryan Act) Bilingual/Cross-Cultural and Early Childhood Education.
4. In-service teacher education.

Instruction concentrates on the central principles of the school as a basic institution of our culture, the methods and materials associated with effective teaching, and the current and persistent problems that confront teachers, and other professional workers in educational institutions. In addition to using published source materials and attending class sessions for presentations and discussions, many courses require fieldwork in schools, laboratories, clinics and other educational agencies.

PUBLICATIONS AVAILABLE FROM THE DIVISION OF TEACHER EDUCATION

1. Master of Science in Education, Elementary Curriculum and Instruction
2. Master of Science with a Concentration in Bilingual-Bicultural Education (Spanish-English)
3. Admission to Teacher Education Policies
4. Multiple Subject Instruction (elementary teacher education programs)
5. General Subject Area Competency (Multiple Subjects Credential)
6. Single Subject Instruction (Secondary Teacher Education Program)
7. Emphasis in Educational Alternatives—Secondary Schools
8. Specialist's Credentials
   a. Bilingual/Cross-Cultural
   b. Early Childhood Education

PERSONNEL SERVICES FOR TEACHER EDUCATION STUDENTS

Advisement concerning teacher education is available in the Division of Teacher Education for programs in multiple subject instruction, single subject instruction, the specialist in early childhood, and the specialist in bilingual/cross-cultural, Master of Science with a Concentration in Bilingual-Bicultural Education (Spanish-English), and the Master of Science in Education with concentration in elementary curriculum and instruction. Students should consult with the coordinators of elementary or secondary teacher education and other faculty members in selecting courses for the basic teaching credential and either of the specialists' credentials. Graduate students interested in the master's degree program should consult with the graduate coordinator. Transfer students should have transcripts of previous work available.

Students seeking a Multiple Subjects Credential (elementary teaching) should seek advisement regarding competency in general subject areas *as soon as they decide to enter the teaching field.* The general subject area competency requirement may be met by completing the specified list of requirements of a degree program with a commission approved waiver or by a satisfactory group of scores on the Commons Examination. Students should check with the Division of Teacher Education for further information and obtain bulletin "General Subject Area Competency."

Students seeking the basic teaching credential in single subject instruction should also consult with teacher education advisers in the departments of their major. Departments having these advisers are Art, Communications, English, Foreign Languages and Literatures, Mathematics, Physical Education, Music, Science Education, Speech Communication and Theatre. Advisement for the social sciences and business education is available in the Division of Teacher Education.

APPLICATION FOR CREDENTIALS FOR TEACHING

The teacher education programs are approved by the State of California for issuance of the basic teaching credential. Upon completion of a credential program, the candidate for the credential must submit an application to the Commission for Teacher Preparation and Licensing with the credential analyst at the university. On the application, the candidate is asked questions regarding personal and professional fitness and is asked to sign an oath of allegiance. The applicant must also submit a fingerprint-identification card and the legal fee, which is currently $20.

CREDENTIAL PROGRAMS

MULTIPLE SUBJECTS INSTRUCTION (ELEMENTARY)
ADMISSION TO THE MULTIPLE SUBJECT PROGRAM

Before being permitted to enroll in a credential program, the student must have made formal application, been screened and been formally admitted to teacher education through the School of Human Development and Community Service. The student will be permitted to apply for admission to teacher education in the semester previous to beginning his professional program. Students

interested in the program of the multiple subjects credential will submit their applications at the beginning of their second semester of the junior year. A faculty committee will review information concerning the applicant's intellectual resources, command of fundamental skills of communication, scholarship, personality and character, interest in teaching and health. When more qualified students apply for admission to teacher education than can be accommodated during a given semester, applicants will be ranked and those with the highest rank selected. Qualified candidates who are not admitted may reapply during subsequent semesters. Information concerning the criteria and the procedures for admission to teacher education may be obtained in the Office of Teacher Education.

CURRICULUM IN ELEMENTARY SCHOOL TEACHER EDUCATION *

The program leading to the recommendation for the multiple subjects credential includes:

1. A bachelor's degree from an approved institution.
2. A fifth year of college or university postgraduate education taken at the upper division or graduate level. (If the student does not complete all requirements, a preliminary credential may be awarded at the end of four or more years of work if he has a bachelor's degree from an approved institution and has completed the student teaching requirement).
3. A breadth of knowledge in subject matter to help in teaching. Students who plan to secure the multiple subjects credential should acquire breadth of knowledge by taking coursework in each of the following areas:
   A. English, including grammar, literature, composition and speech
   B. Humanities and the fine arts
   C. Mathematics
   D. Physical education
   E. Science, including life and physical sciences
   F. Social sciences
   G. Passage of a subject matter examination or a major with an approved waiver.

   Because schools exist in a culturally pluralistic society, teacher candidates are also encouraged to take courses in the Chicano studies, Afro-ethnic studies and Indian studies programs.
4. Professional education requirements which are currently met by the following programs:
   Two-semester sequence (See note below)
   First Semester:
   Ed-TE 430A Foundations in Elementary School Teaching (3)
   Ed-TE 430B Curriculum and Methods in Elementary School Teaching (3)
   Ed-TE 430C Supervised Fieldwork in Elementary School Teaching (3)
   Ed-TE 433 Reading Instruction in the Public Schools (3)

   The first semester of the program entails an all-day commitment, from 8:30 a.m. to 3:30 p.m. daily. It also requires further time for preparation of assignments.
   Second Semester:
   † Ed-TE 439A Student Teaching in the Elementary School (10)
   Ed-TE 439B Seminar in Elementary School Student Teaching (2)
   Ed-TE 314 Drugs and Human Development (1), or the equivalent must be taken by all multiple subjects candidates.

ADMISSION TO STUDENT TEACHING

The credential candidate must submit his application for student teaching by October 15 or March 1 of the semester preceding the semester in which the student expects a student teaching assignment. The application for admission is submitted to either the coordinator of elementary or secondary teacher education.

The application for student teaching is part of the continuous process of evaluating credential candidates on their suitability for elementary and secondary school teaching. Information concerning the criteria and procedures for admission to student teaching, along with the application, may be obtained from the Office of Teacher Education. Admission to teacher education does not include admission to student teaching. Each student is responsible for meeting the requirements and following the procedures for admission.

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* Regulations for the credential are subject to change by the state; any curricular changes will be available in later university publications.

† Note: Admission to the university does not include admission to the multiple subjects credential program. Admission to teacher education does not include admission to student teaching.

SINGLE SUBJECT INSTRUCTION ‡ (Secondary Cooperative Teacher Education Program)

1. **Admission To The Program**

The application forms for admission to the program are available in the Credential Preparations Center. To become a candidate for the secondary school teacher education program the student must be enrolled in good standing in the university and must be admitted to teacher education through the Office of Admission to Teacher Education. The student may apply for admission to teacher education at the beginning of the semester previous to the semester in which he is within six units of completing his major (usually as a second semester junior). Admission to teacher education is for the semester in which the student begins his professional coursework. If the student is admitted and does not enroll in the program, he must reapply in a future semester.

If the student is not admitted, he may reapply in a future semester. A faculty committee, including faculty in the major department; will review information concerning the applicant's intellectual resources, command of fundamental skills of communication, scholarship, personality and character, interest in teaching, and health. The minimum overall grade-point average and the minimum grade-point average in the major is 2.5.

When more qualified students apply for admission to the program than can be accommodated during a given semester, applicants will be ranked and those with the highest rank selected.

Students should consult with advisers prior to making application to the program usually by the beginning of the junior year for the purpose of establishing competency in the fundamental skills. Courses or examinations are available in the areas of English and speech that will assist in meeting specific competencies in fundamental skills.

Persons seeking this credential should carefully plan the work in the major as early as the freshman year so that the pattern of coursework will be equivalent to the program of study in the major that has been designed for credential candidates (See item 3 of the requirements listed below).

Because schools exist in a culturally pluralistic society, teacher candidates are also encouraged to take courses in the Chicano studies, Afro-ethnic studies and Indian studies programs.

2. **Requirements and Curriculum in the Secondary Cooperative Teacher Education Program The Basic Teaching Credential Under the Ryan Act**

The program leading to the recommendation for the single subjects credential includes the following:

A. *A baccalaureate degree* or higher degree, except in professional education from an approved institution.

B. *A fifth year of study* to be completed within five years of the completion of the B.A. or B.S. A preliminary credential can be granted upon the completion of the baccalaureate degree and student teaching. The fifth year of study must be an institution approved program of study.

C. *An approved program of professional preparation.* This refers to the completion of the professional program at Cal State Fullerton described in this document.

D. *Passage of a subject matter examination or its waiver.* The Ryan Act does not specify majors and minors, nor does it specify levels of teaching. Authorization for teaching is specified under only one teaching credential in either multiple subjects or in single subjects instruction. *Multiple subjects instruction means* the practice of assignment of teachers and students as is commonly practiced in California elementary schools.

Single subjects instruction means the practice of assignment of teachers and students to specified subject matter courses as is commonly practiced in California senior high schools and most California junior high schools.

Single Subject Credential	**Degree Major**
Art	B.A. Art
Business	*B.A. Business Administration
English	B.A. Communications
	B.A. Drama/Theatre
	B.A. English
Foreign Languages	B.A. French
	B.A. German
	B.A. Spanish

* Single subject interim waivers granted through June 30, 1975, applicable to students enrolled prior to June 30, 1975.

‡ Regulations governing the credential are subject to change by the Commission for Teacher Preparation and Licensing; changes will be available in later university publications.

Government	*B.A. Political Science
History	B.A. American Studies
	B.A. History
Life Science	B.A. Biological Science
Mathematics	B.A. Mathematics
Music	B.A. Music
Physical Education	B.S. Physical Education
Physical Science	B.A. Biological Science
	B.A. Chemistry
	B.A. Earth Science
	*B.A. Physics
Social Science	B.A. American Studies
	*B.A. Anthropology
	*B.A. Economics
	*B.A. Ethnic Studies (Afro-American Option, Chicano Studies Option, Native American Studies Program)
	B.A. History
	*B.A. Latin American Studies
	*B.A. Philosophy
	*B.A. Psychology
	*B.A. Sociology

Multiple Subject Waiver Programs approved for examination waiver:

Americn Studies, Chicano Studies, Child Development, Communications, French, German, History, Human Services, Latin American Studies, Liberal Studies, Spanish.

Single subjects categories provided for in the Ryan Act related to this university's offerings are: English, physical science, life science, mathematics, social science, history, government, physical education, business, music, art, and languages including but not limited to French, Spanish, Russian and German. Other single subjects included in the Ryan Act but not offered at this university are industrial arts and home economics. Other subject matter areas are subsumed, as directed by the commission in the above categories.

The statutory single subjects offered at this institution along with the subsumed subjects authorized for secondary school teaching in that single subject are:

A. *Art.* Subsumed thereunder are: arts and crafts, ceramics, commercial art, costume design, crafts, design, drawing and painting, history, appreciation and theory, illustration (including cartooning), interior decoration, jewelry, leathermaking, photography, sculpture, stagecraft, and other courses of which the content and prerequisites relate to art.

B. *Business.* Subsumed thereunder are: bookkeeping, business education, business English, business law, business machines, business mathematics, consumer problems, data processing, distributive education, economics, secretarial/stenographic, typing, and other courses of which the content and prerequisites relate to business.

C. *English.* Subsumed thereunder are: composition, creative writing, debate, drama, forensics, humanities, journalism, language arts, literature, play production, public speaking, newspaper staff, speech (oral communication), theater arts, writing, and other courses of which the content and prerequisites relat to English.

D. *Languages.* Including, but not limited to, French, Spanish, Russian, German, and Chinese.

E. *Government.* Subsumed thereunder are: American government and politics, comparative government, international politics, law, political philosophy, and other courses of which the content and prerequisites relate to government.

F. *History.* Subsumed thereunder are: European history, United States history, world history, and other courses of which the content and prerequisites relate to history.

G. *Life science.* Subsumed thereunder are: biology, botany, general science, health science, physiology, plant science, zoology, and other courses of which the content and prerequisites relate to life science.

H. *Mathematics.* Subsumed thereunder are: algebra, business mathematics, consumer mathematics, geometry, industrial shop mechanics, statistics and probability, number systems, mathematical analysis, computer science, trigonometry, and other courses of which the content and prerequisites relate to mathematics.

* Single subject interim waivers granted through June 30, 1975, applicable to students enrolled prior to June 30, 1975.

tent and prerequisites relate to mathematics.

I. *Music.* Subsumed thereunder are: instrumental, theory and appreciation, vocal, and other courses of which the content and prerequisites relate to music.

J. *Physical education.* Subsumed thereunder are: aquatics, body dynamics, dance, gymnastics, health education, interscholastic sports, sports, and other courses of which the content and prerequisites relate to physical education.

K. *Physical science.* Subsumed thereunder are: astronomy, chemistry, earth science, general science, geology, physics, and other courses of which the content and prerequisites relate to physical science.

L. *Social science.* Subsumed thereunder are: anthropology, economics, geography, government, history, humanities/cultural studies, law, psychology, sociology, world affairs, and other courses of which the content and prerequisites relate to social science.

These titles are descriptive only and are not an exhaustive listing of courses which may be taught by holders of the credential. They are intended to indicate the teaching parameters authorized by a credential in the single subject category.

3. **Subject matter examinations are available through the National Teachers Examinations in English, Physical Science, Life Science, Mathematics, Social Studies, Industrial Arts, Physical Education, Business, Music, Art, Home Economics, and Languages (French, German and Spanish). Applications for these examinations are available in the Division of Teacher Education Office.**

Waivers for these examinations are authorized by the Commission for Teacher Preparation and Licensing for programs of study offered through degree programs at this University. Candidates should consult with major advisers or the coordinator of secondary education for information concerning waiver programs.

E. *Demonstration of a knowledge of the various methods of teaching reading, to a level deemed adequate by the commission, by successful completion of a program of study approved by the commission or passage of commission-approved reading examination.*

The course in instruction in reading for secondary school teaching meets this requirement. This requirement is optional for candidates in art, music and physical education. It is recommended especially for candidates in these fields who seek authorization to teach in other subject fields.

F. All credential applicants must also have completed a course on the United States Constitution or have passed an examination in lieu of this course.

G. The candidate is required by law to complete a health unit requirement in drug education prior to the issuance of a clear credential. Ed-TE 314, Drugs and Human Development, or its equivalent meets this requirement.

4. **Curriculum in Secondary School Teacher Education (Prerequisite—Admission to Teacher Education)**

This is a two-semester program designed around extensive fieldwork in secondary schools. In the first semester the candidate for the credential is assigned to a learning center (a cooperating secondary school) daily from 8:30 a.m. to 12 noon. He meets in seminars and workshops on the university campus daily from 1 p.m. to 3 p.m. For this semester he is registered in:

Ed-TE 440F Supervised Fieldwork in Secondary Schools (2)
Ed-TE 440R Instruction in Reading for Secondary School Teaching (3)
Ed-TE 440S Foundations of Secondary School Teaching (4)
Ed-TE 442 Teaching—in the Secondary School (3) (methods class in the major offered by either the major department or the School of Education)

This is a block program integrating field experience and subject matters to meet specific competencies required of a secondary school teacher. The entire block must be taken in one semester. In the second semester the student registers for full-time student teaching, and in most cases does his student teaching in the same learning center to which he was assigned in the first semester. Student teaching should be completed in the semester following the block program. Courses in the second semester of the two semester program:

Ed-TE 499A Student Teaching in the Secondary School (10)
Ed-TE 449B Student Teaching Seminar (2)

5. **Admission to Student Teaching. To be eligible for student teaching the student must have completed 12 units work at this university.**

The credential candidate submits a formal application for student teaching by December 1 or May

1 in the first semester of the two-semester program. This application is part of the continuous process of evaluating credential candidates and their suitability for teaching in the secondary schools and their progress in acquiring competencies necessary for single subjects instruction. These evaluations will come from cooperating teachers and faculty working with the candidates in the program. Further information concerning the criteria and procedures for admission to student teaching, along with the application, will be available in the Credentials Preparation Center. Since student teaching is done on a full-time basis, student teachers will be limited to one additional course for that semester. Students may take this course only in the late afternoon or evening.

Within the program of preparation for teaching a single subject it is possible to elect an emphasis in teaching in secondary alternative schools; different kinds of public school programs designed to meet diverse needs of students, teachers and parents.

The student electing the emphasis in educational alternatives will be registered in the same courses but will focus much attention on current efforts to reform, improve and revitalize secondary education.

CREDENTIAL PROGRAMS

EARLY CHILDHOOD EDUCATION SPECIALIST'S CREDENTIAL

The Early Childhood Specialist's Credential, as authorized by the Teacher Preparation and Licensing Law of 1970 (Ryan Act), is granted through the university program approved in 1974 by the commission which oversees the law's implementation. The 20-unit program develops competencies in teaching and in supervision of educational programs for children at preschool, kindergarten and primary levels. The culminating experiences of the credentialing program include work in field setting which is planned so as to coordinate with candidates' personal teaching schedules.

Admission to the Early Childhood Program

Students with a basic teaching credential (elementary/multiple subjects), or those who are satisfactorily completing work toward it, may declare the Early Childhood Specialist's Credential as an objective for postbaccalaureate study and apply for admission to the program.

Program of Study

The following coursework will be developed into a study plan in consultation with an adviser:

Ed-TE 437 Early Childhood Education (3)
Ed-TE 526 Differentiated Staffing in Public Schools (3)
Ed-TE 527 Graduate Seminar in Developmental Psychology: the Human from Conception Through Eight Years (3)
Ed-TE 538 Graduate Studies: Early Childhood Education (3)
Ed-TE 591A Fieldwork and Seminar in Early Childhood Education (emphasis on teaching) (4)
Ed-TE 591B Fieldwork and Seminar in Early Childhood Education (emphasis on supervision) (4)

BILINGUAL/CROSS-CULTURAL SPECIALIST'S CREDENTIAL

The Bilingual/Cross-Cultural Specialist's Credential as authorized by the Teacher Preparation and Licensing Law of 1970 (Ryan Act) is granted through the university program approved in 1974. The program has been developed cooperatively by the Department of Chicano Studies, the Department of Foreign Languages and Literatures, and the School of Human Development and Community Service working with the university's Board of Bilingual/Cross Cultural Studies. The 27-unit program develops specific competencies for teachers and resource personnel in bilingual/cross-cultural programs from kindergarten through the 12th grade. The credentialing program includes experiences in language and culture of the target population, techniques and methods for bilingual/cross-cultural education, linguistics, fieldwork and community involvement planned to coordinate with candidates' personal teaching schedules.

Admission to the Bilingual/Cross-Cultural Specialist's Credential Program

Students with (1) a basic teaching credential (elementary/multiple subjects or secondary/single subjects), or those who are satisfactorily completing work toward it, and (2) a Spanish language competency as determined by personal interview and/or written examination, may declare the Bilingual/Cross-Cultural Specialist's Credential as an objective for post-baccalaureate study and apply for admission to the program.

Program of Study

The following coursework will be developed in a study plan in consultation with a adviser. Students who have equivalent competencies prior to entry in the program will be advised as to how to obtain credit for such competencies.

Ed-TE 454 Bilingual Education in the United States (3)
Ed-TE 461 Instructional Techniques in Bilingual Education (3)
Ed-TE 462 Fieldwork in Bilingual Education (3)
Spanish 466 Introduction to Spanish Linguistics (3)
Spanish 467 Dialectology: Current Trends in Modern Spanish (3) or
Spanish 468 Spanish-English Contrastive Analysis (3)
Foreign Languages Ed 443 Principles of Teaching English to Speakers of Other Languages (3)
Foreign Languages Ed 450 Spanish Classroom Vocabulary (optional) (3)
Chicano Studies 300 Barrio Conversational Spanish (3)
Chicano Studies 403 Cultural Differences of Mexico and the Southwest (3)
Chicano Studies 420 Spanish for the Elementary School Teacher of the Barrio (3)
Chicano Studies 431 The Chicano Child (3)
Chicano Studies 432 The Chicano Adolescent (3)
Chicano Studies 438 Issues in Bilingual Education in the Chicano Community (3)
Chicano Studies 445 History of the Chicano (3)
Chicano Studies 450 Chicano Contemporary Issues (3)

Other upper division courses in Chicano studies may be substituted with consultation with the coordinator and the Chicano Studies Department.

GRADUATE PROGRAMS
MASTER OF SCIENCE IN EDUCATION

This degree is reserved for professionally qualified graduate students who desire to prepare for or advance their careers in elementary curriculum and instruction.

Prerequisite

An applicant must meet the university requirements for admission in conditionally classified graduate standing: a baccalaureate degree from an accredited institution and a grade-point average of at least 2.5 in the last 60 semester units attempted (see section of this catalog on admission of graduates for complete statement and procedures).

A student who meets the requirements for conditionally classified graduate standing, as well as the following requirements, may be admitted as a classified student upon the development of an approved study plan: a basic teaching credential or equivalent experiences, an approved major (minimum of 24 units upper division or graduate), a 2.5 grade-point average on previous academic and related work, satisfactory interview, references and an autobiography. Credit will be given for previous postbaccalaureate studies when possible. Otherwise well-qualified students may be admitted with limited subject or grade deficiencies, but these deficiencies must be removed. Grade-point average deficiencies may be removed by a demonstration of competency in the graduate program.

Programs of Study

The adviser-approved 30 units (minimum) on the study plan will include the following:

	Units
Coursework outside elementary education	9
Ed-TE 511 Survey of Educational Research (3)	
Two of the following:	
Ed-RP 510 Research Design and Analysis (3)	
Ed-TE 406 Educational Sociology (3)	
Ed-TE 436 Child Study Techniques for Teachers (3)	
Ed-TE 501 Philosophy of Education (3)	
Ed-TE 509 Theory and Practice in Educational Measurement (3)	
Ed-TE 526 Differentiated Staffing in Public Schools (3)	
Ed-TE 527 Graduate Seminar in Developmental Psychology (3)	
Ed-TE 529 Graduate Studies: Learning Theory for Classroom Use (3)	
Ed-TE 538 Graduate Studies in Elementary Education: Early Childhood Education (3)	
Coursework in elementary education	15
Ed-TE 536 Curriculum Theory and Development in the Elementary School (3)	

Three of the following:
- Ed-TE 530 Graduate Studies in Elementary Education: Second Languages (3)
- ED-TE 531 Graduate Studies in Elementary Education: Language Arts (3)
- Ed-TE 532 Graduate Studies in Elementary Education: Mathematics (3)
- Ed-TE 533 Graduate Studies in Elementary Education: Science (3)
- Ed-TE 534 Graduate Studies in Elementary Education: Social Studies (3)
- Ed-TE 535 Graduate Studies in Elementary Education: Reading (3)
- Ed-TE 537 Graduate Studies: Current Issues and Problems (3)

One of the following:
- Ed-TE 597 Graduate Project (3)
- Ed-TE 598 Thesis (3)
- Ed-TE 594 Research Seminar (3)
- Electives selected with approval of the adviser

In addition to completing a minimum of 24 of the 30 units in residence at Cal State Fullerton, students must enroll for a minimum of six units in each of two consecutive semesters. 6

For further information, consult the chair.

See also "The Program of Master's Degrees" in this catalog and the *Graduate Bulletin.*

MASTER OF SCIENCE WITH A CONCENTRATION IN BILINGUAL-BICULTURAL EDUCATION (Spanish-English)

This degree is reserved for professionally qualified graduate students who desire to prepare for or advance their careers in bilingual-bicultural education.

Prerequisite

An applicant must meet the university requirements for admission in conditionally classified graduate standing: a baccalaureate degree from an accredited institution and a grade-point average of at least 2.5 in the last 60 semester units attempted (see section of this catalog on admission of graduates for complete statement and procedures).

A student who meets the requirements for conditionally classified graduate standing, as well as the following requirements, may be admitted as a classified student upon the development of an approved study plan: a basic teaching credential or equivalent experiences, an approved major (minimum of 24 units upper division or graduate), a 2.5 grade-point average on previous academic and related work, language competence (English and Spanish) as determined by personal interviews and/or a written exam, satisfactory interview, references and an autobiography. Credit will be given for previous postbaccalaureate studies when possible. Otherwise well-qualified students may be admitted with limited subject or grade deficiencies, but these deficiencies must be removed. Grade-point average deficiencies may be removed by a demonstration of competency in the graduate program.

Programs of Study

The adviser-approved 30 units (minimum) on the study plan will include the following:

	Units
Supporting course outside Bilingual Education	3
Ed-RP 510 Research Design and Analysis (3)	
Coursework outside bilingual-bicultural education	12

Two of the following:
- Spanish 466 Introduction to Spanish Linguistics (3)
- Spanish 467 Dialectology: Current Trends in Modern Spanish (3)
- Spanish 468 Spanish-English Contrastive Analysis (3)
- Spanish 500 Graduate Seminar: Advanced Structure and Style (3)
- Spanish 510 Graduate Seminar: Phonology (3)
- Spanish 530 Graduate Seminar: In Historical Linguistics (3)

Two of the following:
- Chicano Studies 403 Cultural Differences in Mexico and the Southwest (3)
- Chicano Studies 407 Barrio Studies (3)
- Chicano Studies 420 Spanish for the Elementary School Teacher in the Barrio (3)

237 8 10 445

Chicano Studies 431 The Chicano Child (3)
Chicano Studies 438 Issues in Bilingual/Cross-Cultural Education in the Chicano Community (3)
Chicano Studies 445 History of the Chicano (3)
Chicano Studies 450 The Chicano and Contemporary Issues (3)
Coursework in bilingual-bicultural education 12
Education
Ed-TE 500 Development and Implementation of Bilingual-Bicultural Curriculum (3)
Ed-TE 541 Psychological and Sociological Foundations of Bilingual-Bicultural Education (3)
Ed-TE 542 Seminar in Current Issues and Problems in Bilingual-Bicultural Education (3)
Ed-TE 597 Project or Ed-TE 598 Thesis (3)
Elective selected with approval of adviser (3)
Total units 30
Student must complete a minimum of 21 of the 30 units in residence at Cal State Fullerton.

For further information consult the graduate program adviser of bilingual-bicultural education. See also "The Program of Master's Degree" in this catalog and the *Graduate Bulletin.*

TEACHER EDUCATION COURSES

210 The Teaching Experience: Exploration (3)
Exploration of one's self in relation to other people in the schools and an encounter with the teaching experience, through fieldwork. Accompanying seminar to help students extend their observations and explore relevant issues. (4 hours fieldwork, 1 hour seminar)

301 The Educated Man (3)
Prerequisite: junior standing or consent of instructor. Various conceptions of the nature, concerns and activities of a truly educated person are studied: the humanitarian ideal; aspects of human freedom; and the relation of science to culture.

302 The Campus in Transition (3)
Prerequisite: junior standing or consent of instructor. Study of the history and development of American higher education. The roots of change and campus unrest are examined.

303 Education and Its Critics (3)
Examination of the criticisms of contemporary education and of proposals for reform. Includes visits to a variety of schools. Designed for all students. Not a part of the credential program.

304 Contemporary Educational Change (3)
Emphasis on the changing educational scene in elementary and secondary levels. The quest for greater flexibility, better methods of teaching, improved staffing patterns and accountability serve as the course of foundation.

305 School and Society (3)
Stability and change in contemporary society viewed in terms of the decline of traditional values and culture and the rise of legal-rational institutions. Urban life, social class, race relations and family organization will be examined.

308 Education of Various Cultural Groups: Early Childhood (3)
Designed for Head Start personnel and others engaged in the early education of culturally different children. Focus will be on development of learning, curriculum content, and methodology. (2 hours lecture, 2 hours activity)

309 Fieldwork in the Education of Various Cultural Groups (3)
Observation and participation in classes for various cultural groups. Integrated with coursework in Education of Various Cultural Groups. Must be taken concurrently with ED-TE 308. (9 hours laboratory)

310 The Teaching Experience: Participation (3)
Active participation in school classrooms and analysis of the experience. Accompanying seminar will help students to analyze their fieldwork experiences. (4 hours fieldwork, 1 hour seminar) 310 is repeatable for credit.

240 8 10 460

312 Human Growth and Development (3)
Prerequisite: Psychology 101. A comprehensive study of human growth and development with emphasis on childhood, adolescence and middle and old age. Includes mental, social, emotional and physical development.

314 Drugs and Human Development (1)
Examines substance abuse in relation to personal development, social stress, and physiological and psychological effects. Emphasizes methods of exploring values and making decisions in regard to substance abuse.

332 The Effective Parent (3)
Principles of effective parent-child relationships. Includes developmental tasks of children and parents; social and psychological factors in family structure and communication; major concerns in child-rearing.

385 Infancy and Early Childhood (3)
The physical growth and social and personality deelopment of the human through the sixth year of life.

386 Adolescence (3)
A study of the physical, social and cultural development of human adolescence and youth. Particular attention is given to contemporary factors producing change.

390 Middle Childhood (3)
Prerequisite: Psychology 361 or Education 312, or equivalent. Study of physical growth, personality development and social participation during middle childhood. Attention is given to patterns of cognitive growth and emotional adjustment.

401 Social Foundations of Education (4)
Seminar in philosophical, historical and sociological foundations of education, considered in the light of their influence on contemporary educational theory and practice in the United States.

402 Comparative Education (3)
A seminar centered in study of the various countries' education patterns, as part of the cultural setting in which found; designed to deepen insight into our own culture's educational program and offer bases for comparative evaluation with other systems.

403 History of Education (3)
The main streams of educational history in Europe and America, with particular emphasis on the ways these main streams have affected the current scene in the United States.

404 Teaching Strategies for Open Education (3)
A course designed to examine principles of open education and effective procedures to follow in open classrooms. Emphasis is on practical application of teaching strategies.

405 Human Relations Skills for Teachers (3)
Principles and techniques for developing effective human relationships. Emphasis on practical skills in classroom settings. Includes techniques of self-evaluation, communication, classroom climate, effective teaching behaviors, team development, and working with individuals and groups.

406 Educational Sociology (3)
The school in the social order; the school as a social system; analysis of cultural factors affecting the school; the special culture of the school; roles and role conflicts in the school; policy questions flowing from social issues and school-cultural relationships.

407 Principles of Teaching and Learning in the Elementary School (3)
Prerequisites: admission to the Teacher Education Program (Elementary). The course relates theories of learning and theories of child growth and development to effective teaching in elementary schools. The appropriate foundations of instructional practices are examined. Fieldwork in the public schools is part of the course.

408 Ghetto Schools (3)
A study of the schools in the inner city, including educational issues related to or stemming from poverty, cultural differences, often inappropriate curricula, limited communication between parents and the system, and other problems.

410 The Teaching Experience: Field Investigation (3)
Prerequisite: consent of instructor. Development of field investigation in area of interest. Includes needs assessment, study proposal, implementation of study and presentation of findings. Accompanying seminar. (4 hours fieldwork, 1 hour seminar)

243 8 10 475

429 Individualized Instruction (3)
The principles and operational components of individualized teaching and learning. Emphasis on practical classroom implementation of individualized instructional strategies.

430A Foundations in Elementary School Teaching (3)
Prerequisite: admission to teacher education. A study of children's learning styles, and their overall growth and development with the aim of helping future elementary teachers acquire the behaviors necessary for effective teaching. To be taken concurrently with Ed-TE 430B,C and 433.

430B Curriculum and Methods in Elementary School Teaching (3)
Prerequisite: admission to teacher education. A study of elementary school curricula, instructional materials, and teaching techniques with the aim of helping future elementary teachers acquire the behaviors necessary for effective teaching. To be taken concurrently with Ed-TE 430A, C, and 433.

430C Supervised Fieldwork in Elementary Teacher Education (3)
Prerequisite: admission to teacher education. Students will serve as teacher participants in an assigned elementary school classroom to apply information learned in the following course which must be taken concurrently: Ed-TE 430A,B and 433.

432 Philosophy and Objectives of Community College Education (2)
Prerequisite: postgraduate standing. College movement in higher education in the United States. Socioeconomic forces creating needs for different post-high school education; community college education objectives, relationships to secondary and higher education; curriculum development and organization.

433 Reading Instruction in Public Schools (3)
Prerequisite: admission to teacher education. Experiences in the teaching of reading in which students will demonstrate the behaviors necessary to work with children in public school.

434 Principles of Community College Teaching (3)
Prerequisite: postgraduate standing. Psychological foundations of community college teaching, measurement and evaluation of learning. Educational and philosophical bases for instructional procedures in the community college. Instructional procedures including audiovisual materials, community college class observations. (2 hours seminar, 3 hours fieldwork)

435A Strategies of Teaching (4)
Prerequisites: Ed-TE 407 and 433. A course dealing with implementation of principles of learning and teaching in the subject areas taught in the elementary schools. The approach is to focus on teacher tasks rather than on subject areas. Examples from the subject areas will be used in the examination of teacher tasks.

435B Supervised Fieldwork in Elementary Teacher Education (2)
Prerequisites: admission to teacher education, Ed-TE 407 and 433; Ed-TE 435A is to be taken concurrently. Students will serve as teacher aids in an assigned elementary school classroom to apply information learned in Ed-TE 407, 433 and 435A.

436 Child Study Techniques for Teachers (3)
Prerequisite: consent of instructor. Techniques the classroom teacher may use in understanding individual children within his classroom who do not respond to the teacher and his peers in typical ways.

437 Early Childhood Education (3)
Study of current literature and recent research in the area of education of young children through individual and group study. Emphasis will be placed on problems centered in cognitive processes, content, structure and instruction at this level.

439A Student Teaching in the Elementary School (10)
Prerequisites: Ed-TE 430A,B,C, 433 and admission to student teaching. Participation in a regular elementary school teaching program for the full school day. Concurrent enrollment in Ed-TE 439B is required.

439B Seminar in Elementary Student Teaching (2)
Prerequisites: Ed-TE 430A,B,C, 433 and admission to student teaching. Seminar in problems and procedures of elementary school teaching. Concurrent enrollment in Ed-TE 439A is required.

440F Supervised Fieldwork in Secondary Schools (2)
Prerequisites: admission to teacher education. Observation and participation in instruction in secondary school learning centers 3 hours daily. Fieldwork associated with Ed-TE 440R, 440S and 442. Taken concurrently with the courses. Replaces Ed-TE 340, 496, and 449.

247 8 10 490

440R Instruction in Reading for Secondary School Teaching (3)
Prerequisites: admission to teacher education. Instruction in developmental reading for prospective teachers in single subjects. Taken concurrently with Ed-TE 440F, 440S and 442.

440S Foundations Secondary School Teaching (4)
Prerequisites: admission to teacher education. Includes development of teaching competencies related to adolescent development, the learning process and diagnosis of learning problems, evaluation of pupil achievement, and cultural differences in secondary school youth. Taken concurrently with Ed-TE 440F, 440R and 442. Replaces Ed-TE 411.

441 Teaching Reading Before First Grade (3)
Prerequisite: consent of instructor or student teaching. Procedures and problems of teaching reading to preschool and kindergarten children. Implementation of recent research in the fundamental skills of communication among young pupils. Effect of reading instruction on the affective behavior of preschool children.

442 Teaching—in the Secondary School (3)
Prerequisite: admission to teacher education. Required before student teaching of students presenting major in following areas or subjects.

Art Ed 442 Teaching Art in the Secondary School (3)
Ed-TE 442 Teaching Business in the Secondary School (3)
Ed-TE 442 Teaching Social Science in the Secondary School (3)
Engl Ed 442 Teaching English in the Secondary School (3)
For Langs Ed 442 Teaching Foreign Languages in the Secondary School (3)
Journ Ed 442 Journ Ed 442 Teaching Journalism in the Secondary School (3)
Math Ed 442 Teaching Mathematics in the Secondary School (3)
Mu Ed 442 Principles and Methods of Teaching Music in the Public Schools (3)
PE 442 Teaching Physical Education in the Secondary School (3)
Sci Ed 442 Teaching Science in the Secondary School (3)
Speech Ed 442 Teaching Speech in the Secondary School (3)
Theatre Ed 442 Teaching Theatre in the Secondary School (3)

443 Management of Behavior in the Regular Classroom (3)
Prerequisite: completion of student teaching or consent of instructor. Principles of productive teacher-pupil interaction in the regular classroom. Understanding, identification and correction of maladaptive classroom behavior of children and adolescents.

444 The Effective Substitute Teacher (3)
Prerequisite: completed student teaching or consent of instructor. Techniques, procedures and strategies for successful substitute teaching. Opportunities to develop materials and resources for classroom use.

445 Junior High School Education (3)
Prerequisite: Ed-TE 442 or 331. Seminar on principles of junior high education. Purposes, curriculum, and organization of the junior high school including examination of recent innovations and proposals. For students with elementary or secondary backgrounds interested in this level.

446 Secondary School Curriculum (3)
Prerequisite: student teaching or teaching experience or consent of instructor. Fundamentals of curriculum development. Seminar on current issues within secondary education. Curricular organization and current practices. Survey and evaluation of newer curricular programs.

448 Social Studies Simulation Games (3)
A discussion-laboratory course in which students will study simulations, get acquainted with and play a number of commercially available simulations, and design and play their own. For teachers and prospective teachers of the social studies elementary and secondary schools.

449A,B Student Teaching in the Secondary School and Seminar (12)
Prerequisite: admission to student teaching. Full-time student teaching.

Art Ed 449 Teaching Art in the Secondary School (3)
Ed-TE 449 Teaching Business in the Secondary School (3)
Ed-TE 449 Teaching Social Science in the Secondary School (3)
Engl Ed 449 Teaching English in the Secondary School (3)
For Langs Ed 449 Teaching Foreign Languages in the Secondary School (3)
Journ Ed 449 Teaching Journalism in the Secondary School (3)
Math Ed 449 Teaching Mathematics in the Secondary School (3)
Mu Ed 449 Principles and Methods of Teaching Music in the Public Schools (3)

PE 449 Teaching Physical Education in the Secondary School (3)
Sci Ed 449 Teaching Science in the Secondary School (3)
Speech Ed 449 Teaching Speech in the Secondary School (3)
Theatre Ed 449 Teaching Theatre in the Secondary School (3)

451 Principles of Educational Measurement (3)
Development, validation, and application of the principles of educational measurement. Construction and use of informal and standardized achievement tests. Summary and interpretation of results of measurement.

454 Bilingual Education in the United States (3)
Prerequisites: Some knowledge of bilingual education. Helpful, but not necessary ability to converse in another language (preferably Spanish). Study of bilingual education in the United States; the literature, the laws, the history and the impact such educational programs have had on the speaker of the foreign languages in the United States.

456 Supervision of Student Teaching (3)
Prerequisites: a teaching credential and one year of teaching experience. Designed for teachers who supervise student teachers. Emphasis on principles and procedures of effective supervision and research.

461 Instructional Techniques in Bilingual Education (3)
Designed to develop instructional techniques in bilingual education. Analyzes purposes, philosophies and concepts of bilingual education. Identifies theories of language learning, cultural differences in learning processes and methodologies of bilingual instruction.

462 Fieldwork in Bilingual Education (3)
Fieldwork in bilingual settings, designed for the student in the Bilingual/Cross-Cultural Specialist Credential. The student must be enrolled in the program and be in the second semester of training.

491 Audiovisual Education (2)
Media in communication, psychological bases, development, curricular function, evaluation. Survey of equipment and materials available, preparation of instructional materials for classroom use. (1 hour lecture, 2 hours activity)

493 Production of Audiovisual Materials (2)
Exploration and development of audiovisual materials. Students will participate in scriptwriting, story-board, photography and tape production. Experience will be provided in producing graphics, charts and bulletin boards. (1 hour lecture, 2 hours activity)

496 Senior Educational Practicum (1–3)
Conduct at an advanced level an educational practicum experience with an individual under the direction of a faculty member. May be repeated for a maximum of six units of credit.

499 Independent Study (1–3)
Prerequisites: senior or graduate standing, consent of instructor and division prior to registration. Individual investigation under supervision of a faculty member. Only students of demonstrated capacity and maturity will be approved; adequate prerequisite study necessary. May be repeated for credit.

500 Development and Implementation of Bilingual-Bicultural Curriculum (3)
Student preparation in identification and development of bilingual-bicultural curricula relative to bilingual-bicultural Spanish-speaking students. Adaptation and modification or existing curricula. Development of units of instruction for use in bilingual-bicultural classrooms.

501 Philosophy of Education (3)
Prerequisites: postgraduate standing and Ed-TE 339 or 439A,B or 749, or consent of instructor. Uses of theories of knowledge, value and reality in dealing with educational problems; application of contemporary systems of thought to education.

509 Theory and Practice in Educational Measurement (3)
Introduction to concepts, theory, and procedures for construction of informal and standarized tests. Application of measurement theory and statistical techniques toward problems of analysis, scaling, norming and interpretation. Practice in item writing for tests and analysis of commercial standardized tests.

511 Survey of Educational Research (3)
Review of descriptive statistics and statistical inferences as used in educational research. Analysis of representative research papers. Principles of research design. Prepare papers using research findings.

525 Seminar for Secondary Education (3)
Prerequisite: teacher credential or consent of instructor. Persistent problems in secondary education and survey of related literature, causes of and solutions for these problems. Application of scientific method to educational problems, sources of educational research, and to techniques of cooperative thinking.

526 Differentiated Staffing in Public Schools (3)
Prerequisite: teaching credential or consent of instructor. Seminar in the study of the processes and techniques in working with parents, paraprofessionals, specialists and community people. Includes basic principle of supervision and interaction with adults.

527 Graduate Seminar in Developmental Psychology: The Human from Conception Through Eight Years (3)
Prerequisites: teaching, credential or consent of instructor. The physical, social, cognitive-intellectual and emotional development of human individuals from conception to middle childhood is the subject of this seminar. Current problems, theories and research are given emphasis.

529 Graduate Studies: Learning Theory for Classroom Use (3)
Major theories of learning. The use of major theoretical positions in planning and interpreting classroom practices. Educational research findings supporting major theories, implications for curriculum developments and teaching practices.

530 Graduate Studies in Elementary Education: Second Languages (3)
Prerequisite: consent of instructor. Seminar for the study of pertinent investigations and their application in the classroom together with significant curriculum developments and organization in the area of second language learning in the elementary school, including English as a foreign language.

531 Graduate Studies in Elementary Education: Language Arts (3)
Prerequisite: consent of instructor. Seminar for advanced study of trends and problems in teaching the fundamental skills of communication in the elementary school. Analysis of research in the language arts and related disciplines as background for curriculum development.

532 Graduate Studies in Elementary Education: Mathematics (3)
Prerequisites: Math Ed 103A, Ed-TE 439A,B or consent of instructor. Seminar for the study of significant research, curricular developments and materials, criteria for planning and improving mathematics programs and instruction.

533 Graduate Studies in Elementary Education: Science (3)
Prerequisite: Ed-TE 439A,B, or consent of instructor. Seminar for the study of significant research in elementary school science. Criteria for planning and improving science programs and the development of materials.

534 Graduate Studies in Elementary Education: Social Studies (3)
Prerequisite: Ed-TE 339 or 439A,B, or consent of instructor. Seminar for the study of significant research developments and materials, criteria for planning and improving social studies programs and current techniques of teaching.

535 Graduate Studies in Elementary Education: Reading (3)
Prerequisite: Ed-TE 339 or 439A,B, or consent of instructor. Seminar in advanced study of trends and issues in teaching reading in elementary schools. Analysis of research or background for curriculum development and instructional procedures.

536 Curriculum Theory and Development in the Elementary School (3)
Prerequisite: Ed-TE 439A,B, or consent of instructor. Seminar for the study of the elementary school curriculum including the forces operating on the curriculum and the participants involved in curriculum building. Emphasis also placed on the process of curriculum building.

537 Graduate Studies: Current Issues and Problems (3)
Prerequisite: Ed-TE 439A,B, or consent of instructor. A study of problems and issues in elementary education, their causes and possible solutions.

538 Graduate Studies in Elementary Education: Early Childhood Education (3)
Prerequisite: teaching credential or consent of instructor: completion of Ed-TE 437 and 527 or equivalents. Exploration of the implications of research for curriculum development and instructional planning. Study of the ways in which different views of human development and learning have affected programs in early childhood education.

541 Psychological and Sociological Foundations of Bilingual-Bicultural Education (3)
Application of psychological and sociological theory and techniques to the design of programs of instruction for limited and non-English-speaking children. The use of these disciplines for the development of emotionally and socially supportive learning environments.

542 Current Issues and Problems in Bilingual-Bicultural Education (3)
Major specific concerns in bilingual-bicultural education. A survey of problems and issues in the development and implementation of bilingual-bicultural education.

554 Research Analysis in Bilingual-Bicultural Education (3)
The educational research process, sources of research literature in education, educational research terminology and the basic principles and process of educational measurements in statistics to bilingual-bicultural education.

577 Seminar in Early Childhood Education (3)
Prerequisites: admission into programs; six units of program completed including Ed-TE 538. Specialized topics in early childhood education, curriculum planning, developing and evaluation; individualized instruction and learning; bilingual/multi-cultural education; utilization of human resources; and special topics of child growth and development.

591A Fieldwork and Seminar in Early Childhood (4)
Prerequisite: Ed-TE 538 or consent of instructor. Provides candidates with an opportunity to demonstrate instructional abilities in working with children, parents, professions, and members of the community.

591B Fieldwork and Seminar in Early Childhood (4)
Prerequisite: Ed-TE 538 or consent of instructor. Provides candidates with opportunities to demonstrate supervisory, coordinating and administrative abilities in working with children, parents, professionals and members of the community in the development of early childhood education programs.

594 Research Seminar (3)
The preparation, evaluation, development, and presentation of curriculum research proposals. Individuals and groups will participate in critiquing proposals and research results.

595 Advanced Studies (1–3)
Graduate seminars designed to develop professional competencies in such areas as behavior, teaching strategies, educational technology, program development, communication theory and interpersonal relations. May be repeated for credit.

597 Project (1–3)
Prerequisite: consent of instructor. Individual research on an empirical project, with conferences with the instructor, culminating in a project.

598 Thesis (1–3)
Prerequisite: consent of instructor. Individual research with conferences with the instructor, culminating in a thesis.

599 Independent Graduate Research (1–3)
Prerequsites: a teaching credential and one year of teaching experience. Designed for independent inquiry.

701 Credential Studies (0)
A course for students admitted to teacher education who find it impossible to maintain continuous enrollment while they are completing the 30 units beyond the baccalaureate.

260 8 10 555

humanities and social sciences



SCHOOL OF HUMANITIES AND SOCIAL SCIENCES

Dean: Leland J. Bellot
Associate Dean: Don A. Schweitzer

The curricula of the School of Humanities and Social Sciences are designed to provide opportunities for students to expand their general knowledge, to develop beginning specializations, to investigate areas of intellectual interest, and, if they choose, to prepare themselves for specialized professional studies.

The School of Humanities and Social Sciences is presently comprised of 22 departments and programs offering undergraduate majors leading to the Bachelor of Arts or Bachelor of Science degree and master's programs leading to the Master of Arts, Master of Science or Master of Public Administration.

DEPARTMENT OF AFRO-ETHNIC STUDIES

FACULTY
Wacira Gethaiga
Department Chair
Cheryl Armstrong, William Coffer, Carl Jackson, Boaz Namasaka

BACHELOR OF ARTS IN AFRO-AMERICAN STUDIES OPTION OF ETHNIC STUDIES UNDERGRADUATE PROGRAM

Students majoring in the Afro-ethnic studies program have a special preparation in and sensitivity to the black experience as it relates to the life in America as a part of a world community. The program is multidisciplinary in nature in that all aspects of Afro-ethnic studies affect and are affected by other programs.

Graduates from the Afro-ethnic studies progam have gone into careers in teaching, community development, community leadership, social work, urban research, law, civil service, industrial relations and a variety of comparable fields.

Many have gone into graduate work in this field and some have entered more traditional disciplines where a general knowledge of social sciences and humanities is prerequisite.

In addition to the broadly based program in ethnic studies with an option in Afro-American studies, the department provides coursework in the American Indian experience.

The purpose of the department is to provide an opportunity for majors and non-majors to become specialists in understanding the problems, achievements, contributions and failures of America's largest and smallest minority groups; to help these students to academically understand the black and native American experiences in the United States and within a world setting in terms of the past and contemporary problems and issues, and to enable them to lead effective and constructive lives in a culturally pluralistic and rapidly changing society.

A minor in the Afro-American option is available for students majoring in other academic fields. The degree program also is designed to provide an effective vehicle for meeting a variety of needs in contemporary higher education: extending opportunities for university education to students who have long been under-represented due to cultural differences between their experiences and the cultural emphasis of higher education; and revising curriculum and promoting research to give all students and faculty an understanding of the interaction of ethnic groups in past and contemporary civilizations.

The required minimum for the major is 36 units: Afro-Ethnic Studies 103,* 107 and 240 plus six additional units from lower division offerings and a minimum of 24 units in upper division courses.

Required

103 Effective Communication (3) *
107 Introduction to Afro-American Studies (3)
240 Afro-American History (3)

* Students can be exempted from Afro-Ethnic Studies 103 by an examination and/or consent of department.

Lower Division electives: (6 units required)

101 Introduction to Ethnic Studies (3)
104 Swahili (4)
105 Swahili (4)
108 Linguistics and Minority Dialects (3)
230 The Native American (3)
240A Afro-American History to 1865 (3)
240B Afro-American History from 1865 to Present (3)
245 Black Political History (3)
255 The Age of Malcolm X (3)

Upper division electives: (24 units required including at least 9 units from 309, 335, 346, 385 and 410)

300 Black Man/Black Woman (3)
301 Afro-American Culture (3)
302 The Evolution of Pan Africanism (3)
304 African Religion and Philosophy (3)
305 Community Organizations (3)
309 The Black Family (3)
311 Intracultural Socialilzation Patterns (3)
314 Pan-African Dance and Movement (3)
315 Pan-African Art (3)
318 Cultural Pluralism in American Educational Institutions (3)
330 American Indian Languages (3)
331 Tribalism and Reservation Life (3)
332 American Indian Leaders (3)
334 Equal Employment Opportunity Laws (3)
335 History of Racism (3)
346 The African Experience (3)
352 African Literature (3)
385 Schools and Minority Groups (3)
400 The Black Man and Reconstruction (3)
401 Black American and Contemporary Issues (3)
410 Afro-American Literature (3)
411 Black Writers' Workshop (3)
412 American Indian Women (3)
420 Philosophy of Black Radical Thought (3)
422 Psychology of the Afro-American (3)
431 Southwestern Indians (3)
432 Indians of the Plains (3)
434 American Indian Education (3)
444 Civil Rights Laws (3)
445 American Political System and the Blacks (3)
450 American Minorities (3)
460 Afro-American Music (3)
463 Black Music Ensemble (3)
483 Black Child and the Educational Systems (3)
495 Selected Topics (3)
497 Ethnic Internship (3)
499 Independent Study (1–3)

MINOR IN AFRO-AMERICAN STUDIES

Students interested in the Afro-American studies minor are required to take a minimum of 21 units. This includes six units of lower division courses including Ethnic Studies 107 or 101 and an additional course. Fifteen units of upper division courses including Ethnic Studies 301 and 309 also must be taken.

AFRO-ETHNIC STUDIES COURSES

101 Introduction to Ethnic Studies (3)
A survey of the basic concepts and problems involved in an examination of the perspective through which black and brown people have come to see themselves in terms of their own heroes, culture, and contributions to societies in which they live and world society in general.

103 Effective Communication (3)
A methodical presentation of the basic skills, emphasizing writing and communication skills, stressing the use of idioms, proper pronunciation, intonation, and correct English patterns.

104 Fundamental Swahili (4)
(Same as Swahili 101)

105 Fundamental Swahili (4)
(Same as Swahili 102)

107 Introduction to Afro-American Studies (3)
Introduction to the aims and objectives of the Afro-American studies program. The course will define and explore the basic terms and references that give substance to Afro-American studies. It will provide uniform purpose and direction for students who seek an education in Afro-American studies.

108 Linguistics and Minority Dialects (3)
(Same as Linguistics 107)

230 The Native American (3)
A study of the American Indian experience in the United States as seen from the Indian's point of view in comparison with that of the white man. Special attention will be focused on the problems of American Indians today.

240A Afro-American History to 1865 (3)
A survey of the economic, political and social history of black Americans in the United States, African origins, the slave trade, slavery, religion, abolition, slavery and territory and the Civil War.

240B Afro-American History from 1865 to Present (3)
A survey of the social, economic, political and cultural history of black Americans. Among the topics will be the black reconstruction role, Jim Crow, the relationship between black workers and white workers and labor unions, lynching, black protest, World War I, black emigration, the Harlem renaissance, the New Deal, World War II, the intensification of the black emigration, the civil rights movement, the Korean War, Vietnam War, the black power movement and cultural developments.

245 Black Political History (3)
Background in the political development of the United States and the influence of slavery there on to the present date. Included is a survey and analysis of the U.S. Constitution showing separate political development of white and black.

255 The Age of Malcolm X (3)
The ideas and ideals of Malcolm X will be explored, focusing on their roots, their impact on local, state, national and international levels. W.E.B. DuBois and Martin Luther King figure in the focus comparatively.

300 Black Man/Black Woman (3)
A study of black value systems, double standards, machismo figure, communication barriers caused by predefined roles, stereotype expectations according to the traditional class status, and how they affect individual abilities and self-esteem.

301 Afro-American Culture (3)
A survey of African cultural characteristics in the New World, as they relate to contemporary events, including art, ideas, dance and literature.

302 The Evolution of Pan Africanism (3)
The historical origins and development of the Pan-African ideology, the philosophical basis of the Pan-African concept, its cultural and political implications and the current conflict among those who advocate class-race struggle.

304 African Religion and Philosophy (3)
An analysis of African life, the relationship between man, God and nature, the systems of African philosophical thought in terms of God, man, ethics, justice, morals, good and evil, life and death, and their interrelationships.

305 Community Organizations (3)
A study of organization agencies, such as Partners for Progress, fair housing, SER, Urban League and the local welfare systems and their relevancy to the minority community. Students will be

involved in field research and assess the goals and accomplishments of an organization selected for study.

309 The Black Family (3)
A study of the American social conditions that shaped the black family from the African cultural patterns that were destroyed during slavery to the family that exists today. Special attention will be given to the roles of poverty, racism and discrimination.

311 Intracultural Socialization Patterns (3)
Patterns of role learning as they vary within subpopulations; changes over time in the values, attitudes, and goals of both the general culture and of subcultures; stereotypes and realities; understanding and dealing with cultural variation as well as cultural "norms."

314 Pan-African Dance and Movement (3)
Theory and practice of movement of African and Haitian peoples. An investigation of how movement (dance) acts as quasi-language in perpetuating the life style of African cultures and cultures of African descent.

315 Pan-African Art (3)
A study of African and Afro-American art from prehistoric to contemporary times, including African influences in other art forms and a stylistic analysis of drawings, sculpture and paintings.

318 Cultural Pluralism in American Educational Institutions (3)
The effects of cultural pluralism on american educational institutions; problems of social conflict created by the change to decentralized educational systems; the effects of change due to integration and segregation of educational institutions.

331 Tribalism and Reservation Life (3)
The role of tribalism in contemporary Indian affairs, with special reference to Indian self-determination on reservations in terms of political, economic and social lifeways relative to the dominant society: Will include field trips to local reservations.

332 American Indian Leaders (3)
The diverse philosophies of American Indian leaders from various Indian nations, the political, sociological and religious aspects of their lives, and the impact on Indian-white relationships.

334 Equal Employment Opportunity Laws (3)
Designed to give insight into Civil Rights laws and legislation of equal employment (Affirmative Action) laws, it will deal with Title VII, Civil Rights Act of 1964 Executive 11246 and 11375.

335 History of Racism (3)
An examination of the current dynamics of racism in terms of the historical roots of that racial phenomenon both in American society and the world setting.

346 The African Experience (3)
A survey of major themes of African history from the origin of the black man and traditional African civilization through the African diaspora to the institutional realities of Africa today.

352 African Literature (3)
(Same as English 352)

385 Schools and Minority Groups (3)
A study of the prevailing educational practices in regard to minority groups in elementary school through college, including minority students' failure patterns, what is being done to change failures, and the outcomes of these practices.

400 The Black Man and Reconstruction (3)
An examination of the first attempt to bring about the realization of an interracial democratic American society. Special attention will be given to the conduct, achievements and contributions of those Afro-Americans who participated in that short lived experiment.

401 Black American and Contemporary Issues (3)
Analysis and discussion of the socioeconomic and political problems confronting black Americans, with an emphasis on problem solving. Particular focus will be placed on the effects American social attitudes and institutions have had on the black community. Research will focus on these areas.

410 Afro-American Literature (3)
A study of the literary endeavors of Afro-Americans and their cultural impact, especially in relationship to the social and psychological evolution of the Afro-American.

411 Black Writers' Workshop (3)
Practice in writing prose, fiction, drama, short stories, book reviews, poetry and essays from the perspective of the black experience.

420 Philosophy of Black Radical Thought (3)
The philosophy of black radical thought as it emerged from the black experience in America through slavery, Reconstruction, post-Reconstruction, pre-World War II and contemporary times and as it is expressed through music, sermons, literature, social movements, drama and political action.

422 Psychology of the Afro-American (3)
Psychological aspects of black identity and the life styles that have risen from racism. The socioeconomic, political, cultural conditions which have fostered the blackness concept and the psychological devices used by blacks to survive.

431 Southwestern Indians (3)
The various Indian tribes of the Southwestern United States beginning with the Anasazi, Mogollon and Hobokam cultures and their evolution to contemporary times, including cultural changes and assimilation.

434 American Indian Education (3)
Prerequisites: Afro-ethnic Studies 230 and 331 or consent of instructor. The education of American Indian youth. Legislation which affects the education will be closely reviewed. Field activities will be utilized. Observations in public and government facilities will be required.

444 Civil Rights Laws (3)
A historical focus on civil rights laws in U.S., showing the causes and impact of these laws upon ethnic human relationships. The Declaration of Independence, the U.S. Constitution, civil rights amendments, civil rights executive orders and the Affirmative Action policy will figure in the focus.

445 American Political System and the Blacks (3)
Prerequisites: Political Science 100 or 309 or 310; or Afro-ethnic Studies 444 or 245 or 190 or 240A or 240B; or History 170A or 170B. The causes and effects of legislation passed to protect and oppress black people in American society; 1865 to the present.

450 American Minorities (3)
Prerequisite: junior standing or consent of instructor. Intensive study of the experiences of American minorities: Asians, blacks, Chicanos, Indians, Jews, women, etc. and their responses to segregation, exploitation and socialization.

460 Afro-American Music Appreciation (3)
A survey of black music in America; the sociological conditions that help produce various forms of black music; and influential black music in America.

463 Black Music Ensemble (3)
Prerequisite: Vocal or instrumental experience or consent of instructor. In-depth appreciation of black music by concentrating on black musical styles such as spirituals, blues, soul and jazz. Appreciation will result in a vocal and instrumental concert of these styles.

483 Black Child and the Educational System (3)
The cultural impact of traditional American educational system upon the black child, focusing also on civil rights acts and the black child, separate and equal doctrine, desegregation school plan, Article 3.3, the Stull Act, and sociological and psychological problems in the black community.

495 Selected Topics (3)
Prerequisite: junior status or consent of instructor. Special seminar in selected topics in Afro-American studies.

497 Ethnic Internship (3)
Interdepartmental course to acquaint minority students with career opportunities in industry and social services. Students work up to 20 hours per week and meet weekly for guidance. Supervision provided by instructor and cooperating agencies. Can be repeated for credit.

499 Independent Study (1–3)
Prerequisites: senior level and acceptance of the subject by department chair and instructor directing the study.

AMERICAN INDIAN EXPERIENCE COURSES

ADVISER
William Coffer

The American Indian experience courses bring faculty members and students (Indian and non-Indian) together in a mutual effort to provide instruction on the status, condition and destiny of Indians in contemporary America. The program includes Indian-oriented courses dedicated to an Indian interpretation of tribal experience in America as well as related courses on Indian themes.

Courses are listed above with Afro-American courses.

DEPARTMENT OF AMERICAN STUDIES

FACULTY

John Ibson
Department Chair

Wayne Hobson, Karen Lystra, Robert Porfirio, Michael Steiner, E. James Weaver

BACHELOR OF ARTS IN AMERICAN STUDIES

The degree in American studies is an interdisciplinary program designed for students with a special interest in the American experience, including the overseas experience. It permits, through intensive study of the United States, greater perception of American society, both contemporary and historical. By providing students with an opportunity to discover the larger relationships among disciplines, the student may receive a better sense of the whole.

American studies is also useful for any career in which an understanding of American culture is important, such as law, government, business, journalism, library work and other services, as well as serving as a foundation for advanced study at the graduate level.

Since two alternative programs are available, the student interested in becoming a major must consult with an American studies counselor to develop a course of study mutually satisfactory. The major consists of 36 units distributed as follows between the core program and either Plan a or b:

I. Core program (12 units) required of all majors.
   - 201 Introduction to American Studies (3)
   - 301 The American Character (3)
   - 350 Seminar in Theory and Method of American Studies (3)
   - 401 Proseminar in American Studies (3)

II. Alternative plans (24 upper division units in either plan—electives in American studies may be used in conjunction with courses in other departments)
   a. The student may choose to work in two but not more than three disciplines related to the American experience; for example:
      1. American studies and history or
      2. American studies, sociology and anthropology.
   b. The student may choose to pursue a specialized theme or subject; for example:
      1. mass culture
      2. women in America
      3. urbanization
      4. ethnic groups in American society
      5. the child and the family
      6. 20th-century American problems
      7. law and society

Students interested in the American studies major must consult with the department chair before establishing an individual course of study.

AMERICAN STUDIES AND THE RYAN ACT

The American studies major has been approved for the multiple subject credential option of the Teacher Preparation and Licensing Law of 1970 (Ryan Act), and for the single subject options in history and in the social sciences. Students who have properly selected their undergraduate courses are eligible for a waiver which excuses them from taking the State Licensing Examination for each of these credentials. Contact the American Studies Department for further information.

MASTER OF ARTS IN AMERICAN STUDIES

The Master of Arts in American Studies is designed for qualified students in the arts, humanities and social sciences who are interested in an interdisciplinary approach to American society and culture. The program puts a general emphasis on the processes of social and cultural change. Particular areas of faculty concentration within the program include: popular culture, white ethnicity, regionalism, film-art-architecture as cultural image, Puritanism, sexuality and American culture, and American cultural radicalism, though the student is encouraged to draw upon the knowledge and expertise available to him in any relevant area of the arts, humanities and social sciences. The interdisciplinary form of training, with a focus on a unified approach to American materials, seeks to provide the student with a full vision of our particular complex industrial culture.

Admission to Graduate Standing: Conditionally Classified

A student must meet the all-university requirements for admission to conditionally classified graduate standing. (Please consult the appropriate section of the *Graduate Bulletin* for complete information.) In addition, a student must (1) hold a bachelor's degree with a major, or its equivalent, in American studies or in an appropriate discipline of the humanities or social sciences, (2) have a grade-point-average of at least 3.0 in upper-division major courses, and (3) submit two satisfactory letters of recommendation from instructors in upper-division major courses.

Students whose undergraduate program indicates certain limited subject, grade, or breadth deficiencies may be considered for admission, at the discretion of the graduate coordinator, with approval of the department's graduate committee. In such cases, a student must make up deficiencies, in consultation with the graduate coordinator, and must complete all required courses with at least a B average before classified graduate standing may be considered.

Admission to Graduate Standing: Classified

Students will be classified upon fulfillment of the above prerequisites, and after development of an approved study plan.

Study Plan

The program requires 30 units of graduate study: 15 units in the discipline of American studies, 12 units in an outside area of concentration, and 3 units in development of an appropriate research skill.

I American studies ..... 15 units

A Required courses

American Studies 501 Graduate Seminar in the Theory and Methods of American Studies (3)
American Studies 502 Graduate Colloquium in American Studies: Selected Topics (3)
American Studies 598 Thesis (3)

B. Electives

Additional upper-division or graduate level course work in American studies (6)

II Outside area of concentration (e.g., anthropology, comparative literature, English, geography, history, political science) ..... 12 units

A. Electives

1. A graduate level seminar (3)
2. Additional upper division or graduate level course work (6)

NOTE: 1. and 2. must be selected from a single area

3. A second graduate seminar which may be chosen from the same area as 1. and 2. or from a related area, at the student's discetion (3 units)

III Elective skill ..... 3 units

A student must demonstrate proficiency in a methodological skill appropriate to his or her scholarly interests. In consultation with an adviser, the student will select the skill to be developed. Proficiency in a foreign language, quantitative methods or linguistics would, for example, be appropriate. If prerequisite work is necessary before a student can develop proficiency through three units of coursework, that preliminary work will not be counted toward the 30 units required for the M.A. degree.

AMERICAN STUDIES COURSES

201 Introduction to American Studies (3)

With the concept of culture as a unifying principle, focus is on four separate time periods in order to provide the framework for an understanding of American civilization. Several different kinds of documents will be used to illustrate the nature and advantages of an interdisciplinary approach.

301 The American Character (3)

The relationship between cultural environment and personality, the extent to which there have been and continue to be distinctly American patterns of belief and behavior, analyzing similarities, as well as class, ethnic, sex and regional differences among Americans.

320 The Dark Age of American Film, 1941–1960 (3)

American film prevalent in the decade following World War II. The style and attitudes of a specific genre of film, ("film noir") will be examined within a sociocultural framework. Course involves weekly film-viewing, lecture and discussion, and occasional guests from the film industry.

325 '30's America Through Films (3)
A cultural history of Depression America using contemporary films as one measure of that culture. The relationship between social values and institutions and popular arts. Hollywood productions such as King Kong and Duck Soup will be shown.

333 Visual Arts in Contemporary America (3)
Visual phenomena in America as they reveal changes in recent American culture. Areas covered include the "high" arts (painting, sculpture) as contrasted with the "low" arts (advertising, television); the artist as innovator, alienation, the business world, and American values in art.

350 Seminar in Theory and Method of American Studies (3)
Prerequisites: American Studies 201 and 301; or History 170A or B; or consent of instructor. Designed to provide the American studies major with an understanding and appreciation of methodology, theories of society and images of man as they effect American studies contributions to scholarship.

360 Cultural Radicalism in America (3)
Through analysis and application of the central concept of American Studies—culture—this course will examine the designs and strategies for cultural transformation of selected radical groups and individuals from the Puritans to the present.

386A American Social History, 1750–1860 (3)
(Same as History 386A)

386B American Social History, 1865–1930 (3)
(Same as History 386B)

401 Proseminar in American Studies (3)
Prerequisites: American Studies 201 and 301; or History 170A or B; or consent of instructor. Designed to permit students to examine the relationship between theory and application. Emphasis on analytic readings and research. Topics will be announced each semester. Check the *Class Schedule* for topics being considered each semester.

402 Religion in the Development of American Society (3)
The changing role of religion in shaping, reflecting, and challenging dominant American values and institutions. Focus is on the 19th and 20th centuries, although some attention will be paid to the colonial period.

410 Irish-Americans and the Cult of Success (3)
Irish-American subculture from the potato famine emigration to the present. Focuses on quality and extent of the "Americanization" process: retention, repression, and loss of Irish ethnicity as a "test case" in the study of cultural diversity in America.

411 The White Ethnic in America (3)
A historical and contemporary look at the white, but not Anglo, ethnic groups in America. Among topics will be ethnic stereotypes, loss and survival in America of national and religious heritages, the origins, breadth and depth of prejudice against non-white among these groups.

412 Freedom and Repression in American Culture (3)
This course focuses on pre-industrial American culture and compares certain taken-for-granted features of modern industrial American culture to that earlier "world we have lost." Special attention is given to such issues as privacy, social control, sexual expression, child rearing and aggression.

413 The Shifting Role and Image of the American Male (3)
An interdisciplinary study of the effect of economic, social, political and cultural changes on American males. Although some attention will be paid to the 17th and 18th centuries, emphasis will be on the 19th and 20th centuries.

415 The Hero in American Popular Culture (3)
Nineteenth and 20th-century materials including dime novels, pulps, detective fiction, comic strips, and films, will be utilized to examine the role of the hero in American imagination.

416 Southern California Culture: A Study of American Regionalism (3)
An examination of regionalism as a concept and as a fact of American life. Various theories of regionalism will be measured against an interdisciplinary study of Southern California and one other distinct American region.

425 Darwinism in American Literature (3)
(Same as English 425)

450 Women in American Society (3)
An effort to explain the rise and decline of feminism in America. The first half of the course will be

lecture. The second half will be devoted to discussion aimed at comparing and contrasting the contemporary woman's movement with its predecessors.

499 Independent Study (1–3)

Supervised research projects in American studies to be taken with the consent of instructor and department chair. May be repeated for credit.

501 The Search for Method in American Studies: Concept and Culture (3)

Analyzes the American studies movement, both in terms of its conceptual and methodological development, and also in terms of the way this development was affected by and in turn reflected larger trends in the culture itself.

502 Practicum in Interdisciplinary Methods in American Studies (3)

Focuses on a particular problem or topic as a case study in the use of interdisciplinary methods in American studies. Problems of integration and synthesis, disciplinary expertise, jargon and technical language barriers, impressionistic versus methodological self-consciousness will be explored.

598 Thesis (3)

Prerequisite: graduate standing in American studies and consent of graduate coordinator. The writing of a thesis based on original research and its analysis and evaluation.

599 Independent Graduate Research (1–3)

Prerequisite: graduate standing in American studies and consent of graduate coordinator. May be repeated for credit.

DEPARTMENT OF ANTHROPOLOGY

FACULTY

E. T. Jacob-Pandian
Department Chair

Aileen Baron, Lawrence Christensen, Marlene Dobkin de Rios, David Evans, Christopher Hulse, LeRoy Joesink-Mandeville, Roger Joseph, Fred Katz, Hans Leder, Ngapare Mills, Otto Sadovszky, Richard See, Judy Suchey, Wayne Untereiner, Corinne Wood, Jack Zahniser

BACHELOR OF ARTS IN ANTHROPOLOGY

The required minimum for the major is 45 semester units (in addition to those units taken for the general education requirement). Anthropology 201, 202 and 203 are required, and the rest must be in upper division courses. Of these 36 units, a minimum of 6 units must be within the category of anthropology courses listed as "topical," a minimum of 6 units from the category "areal," and a minimum of 3 units from the category "methods." Of the remaining 21 units, students are required to take 9–12 units of upper division courses in anthropology, and 9–12 units of upper division courses in related fields.

Lower Division: Required ..... 9 units
Anthropology 201, 202, 203

Topical: Required ..... 6 units
Anthropology 410, 411, 412, 413, 415, 417, 418, 420, 421, 422, 423, 424, 425, 426, 428, 429, 430, 432, 434, 436, 440, 442, 450, 455, 456, 460, 462, 465, 466, 470, 480, 481.

Areal: Required ..... 6 units
Anthropology 321, 322, 324A, 324B, 325, 326, 328, 340, 341, 342, 345, 346, 347, 350, 351, 352, 360, 361, 370.

Methods: Required ..... 3 units
Anthropology 401, 403, 404, 405, 406, 409.

Additional Units: Required ..... 9–12 units
All upper division courses in anthropology. These courses must be selected in consultation with the adviser.

Related Fields: Required ..... 9–12 units
These courses must be selected in consultation with the student's adviser; no related field courses will be counted towards the major requirements unless they have the approval of the adviser.

To total ..... 45 units

NOTE: In anthropology courses, the 300 level is used for areal, and 400 level is used for topical and methods courses. This numbering system does not imply different levels of difficulty or complexity. Students are urged to select courses in any order from any of these categories that will best serve their interests and needs.

MINOR IN ANTHROPOLOGY

The minor in anthropology is intended as a second field for persons completing a major in another discipline. Twenty-one units must be taken in anthropology; 15 of these in upper division courses. Anthropology 201 (or 203), 202, and 480 are required. Two additional courses must be selected from areal offerings in the field:

Anthropology 321, 322, 324A, 324B, 325, 326, 328, 340, 341, 342, 345, 346, 347, 350, 351, 352, 360 and 361. Another course must be selected from theoretical/institutional courses in the field: Anthropology 403, 404, 405, 406, 409, 410, 411, 412, 413, 415, 417, 418, 420, 421, 423, 424, 425, 426, 428, 429, 430, 432, 434, 436, 440, 441, 442, 450, 455, 456, 460, 462, 465, 466, 470, 490 and 491. A final course must be either Anthropology 401 or 481.

MASTER OF ARTS IN ANTHROPOLOGY

The program offers advanced study of general anthropology, while simultaneously encouraging specialization in one (or more) of the traditional subdisciplines, archaeology, cultural anthropology, linguistics and physical anthropology. Opportunities for field and laboratory research and for other related learning experiences permit students to enlarge upon formal classroom training and to work independently with original data.

Prerequisites

An applicant must meet the university requirements for admission in conditionally classified graduate standing: a baccalaureate degree from an accredited institution and a grade-point average of at least 2.5 in the last 60 semester units attempted (see section of this catalog on admission of graduates for complete statement and procedures).

A student who meets the requirements for conditionally classified graduate standing, as well as the following requirements, may be admitted as a classified graduate upon the development of an approved study plan:

1. A bachelor's degree with a minimum of 27 units in anthropology, including the following courses or their equivalents.
   201 Introduction to Physical Anthropology (3)
   202 Introduction to Cultural Anthropology (3)
   203 Introduction to Archaeology (3)
   Either 401 Ethnographic Field Methods (3) *or*
   403 Archaeological Field Methods (3)
   Either 406 Descriptive Linguistics (3) *or*
   409 Anthropological Linguistics (3)
   480 History of Anthropology (3)
   481 Contemporary Anthropology (3)
   One areal course (e.g., Anthropology 328, Peoples of Africa)
   One theoretical or topical course (e.g., Anthropology 415, Culture and Personality: Psychological Anthropology)
   Reading courses and special examinations may be substituted for some of these prerequisites by the department.
2. A GPA of 3.0 (B) for all work taken in anthropology.
3. The completion of a classification review administered by the Graduate Study Committee.
4. Evaluation and acceptance by the Graduate Study Committee. The applicant must submit a letter of intent and at least two letters of recommendation, and Graduate Record Examination, General Aptitude Test scores. In addition, applicants are requested to submit copies of two recent research papers; and the applicant may be required to attend a personal interview at the discretion of the Graduate Study Committee.
   Students with limited subject or grade deficiencies may be considered for admission to the program if they agree to complete additional courses, selected by the Graduate Study Committee, with at least a 3.0 (B) average. Students entering from other colleges and universities and/or from fields other than anthropology may discuss appropriate course substitutions with the Graduate Study Committee.

Study Plan

The study plan for the degree must include the following:	*Units*
1. Anthropology 501 Seminar: Methodology of Anthropological Research	3
2. Anthropology 502 Contemporary Theory in Cultural Anthropology	3

3. Either Anthropology 598 Thesis *or* Anthropology 597 Project 6
4. Two additional graduate seminars in anthropology 6
5. Upper division or graduate work in anthropology 6
6. Upper division or graduate work in anthropology *or* related fields 6

Any adviser-approved 300- or 400-level course taken as a graduate student may be used for requirements 5 and 6. Anthropology 599, Independent Graduate Research, may be used for requirement 5 and/or 6.

For continuation in the program an average of 3.0 (B) for all work in the study plan must be maintained.

Students must remain continuously enrolled, either by enrolling in at least one anthropology course each semester or by enrolling in Graduate Studies 700. Students may request a waiver of this requirement for one or two semesters if professional purposes require their absence from campus. A student who is not continuously enrolled will be required to apply for readmission to the program.

A thesis or a project, including an oral examination, must be completed for the degree. Normally a student will register for thesis or project two times, for three units each semester. Students must demonstrate reading knowledge of an appropriate (adviser-approved) foreign language prior to completion of the degree. Occasionally, the Graduate Study Committee will entertain a petition for the substitution of an *appropriate* alternative skill, such as computer programming. The core courses, Anthropology 501 and 502, must be taken within the first 1½ years of graduate work.

The progress of graduate students will be reviewed prior to classification and again before advancement to candidacy.

For further information, consult the Department of Anthropology's student brochure.

See also "The Program of Master's Degrees" in this catalog and the *Graduate Bulletin.*

ANTHROPOLOGY COURSES

201 Introduction to Physical Anthropology (3)

Man as a biological organism and in evolutionary perspective. Concepts, methods, findings and issues in the study of the order primates, including the relationships between fossil monkeys, apes and man, and the significance of genetic diversity between modern populations.

202 Introduction to Cultural Anthropology (3)

The nature of culture and its significance for man. Uniformities and variations in human cultures. Cultural analyses of major institutional forms such as the family, economy, government, religion and art with an emphasis on preliterate peoples. A consideration of central problems of cultural comparison and interpretation.

203 Introduction to Archaeology (3)

Relationship of archaeology, culture history and culture process, including some discussion of field methods and analysis of archaeological data; the uses and abuses of archaeology. A survey of world culture history from Pleistocene beginnings to the threshold of civilization.

204 Man's Many Faces (3)

The study and analysis of a broad selection of human societies, which will provide a perspective on how human problems have been solved and the possibilities for new solutions to our own problems.

321 The American Indian (3)

Prerequisite: Anthropology 202 or consent of instructor. A cultural survey of North American Indians north of Mexico; origins, languages, culture areas, cultural history; the impact of European contacts.

322 Peoples of Mesoamerica (3)

Prerequisite: Anthropology 202 or consent of instructor. General survey of the ethnology of the Mesoamerican culture-area, with treatment of various Indian societies representing the principal sub-areas.

324A The Ancient Maya (3)

Prerequisite: Anthropology 202 or consent of instructor. The archaeology and ethnohistory of the Maya area of Southern Mesoamerica, focusing on the problems of initial settlement of the area and the "rise" and dynamics of ancient Maya civilization.

57 8 11 205

324B Prehistory of Northern Mesoamerica (3)
Prerequisite: Anthropology 202 or consent of instructor. Archaeological survey of the principal pre-Columbian cultures of Mesoamerica outside the Maya area, emphasizing the Central Highlands, Oaxaca, the Gulf Coast region (including the Olmec) and West Mexico.

325 Peoples of South America (3)
Prerequisite: Anthropology 202 or consent of instructor. A cultural survey of Central and South America. Description of selected cultures representative of different cultural areas before and after contacts with Western countries.

326 Prehistory of South America (3)
Prerequisite: Anthropology 202 or consent of instructor. Archaeological, physical and ethnohistorical survey of the various natural zones and culture areas of South America, lower Central America and the West Indies.

328 Peoples of Africa (3)
Prerequisite: Anthropology 202 or consent of instructor. A cultural survey of Africa with special emphasis on social change and contemporary African problems.

340 Aboriginal Peoples of Asia (3)
Prerequisite: Anthropology 202 or consent of instructor. Survey of cultural areas outside the centers of high civilizations of China and Japan. Emphasis on steppe-nomadism, Siberia, and ethnic splinter groups between India and the Philippines, with focus upon their influence on the cultural centers and vice versa.

341 Peoples of China and Japan (3)
Prerequisite: Anthropology 202 or consent of instructor. Description and analysis of the religious, social and technological systems of the civilizations of Japan and China, as well as the impact of nomadic herders of North and Central Asia upon those centers. Also, a comparison of community studies on these regions.

342 Peoples of India (3)
Prerequisite: Anthropology 202 or consent of instructor. Physical and social anthropology of India, development of regional cultural traditions; continuity and changes in patterns and processes of village religion, politics, and economy; transformation of cultural traits in urban/village interaction.

345 Peoples of the Middle East (3)
Prerequisite: Anthropology 202 or consent of instructor. Interrelationship between culture, economy, political structure and belief system of selected cultures in the Middle East and North Africa; theory and methods in anthropological research as applied to this area.

346 Archaeology of Palestine (3)
Prerequisite: Anthropology 203 or consent of instructor. Survey of culture history of ancient Palestine from the Paleolithic to historic times, with emphasis on changes through time in settlement patterns, resource base, and sociopolitical organization.

347 Peoples of the Pacific (3)
Prerequisite: Anthropology 202 or consent of instructor. A cultural survey of the indigenous peoples and cultures of the Pacific Islands, including Australia. Special attention is given to the forces and processes contributing to social change in island communities and current problems being faced by them.

350 Peoples of Western Europe (3)
Prerequisite: Anthropology 202 or consent of instructor. Representative groups considered in modern and historical perspective, stressing especially rural/urban relationships and the dynamics of change.

351 Peoples of Eastern Europe (3)
Prerequisite: Anthropology 202 or consent of instructor. Peasant cultures of Russia, Southeast Europe, Poland, Czechoslovakia and the Baltic area, their traditional way of life and the impact of industrialization and Communist ideology.

352 Peoples of Ancient Europe (3)
Prerequisite: Anthropology 202 or consent of instructor. A survey of the cultural and social institutions of the peoples of pre-Christian Europe. Particular attention will be paid to the Greek, Italic, Germanic and Celtic peoples, and readings will be drawn largely from original ancient writers.

360 Contemporary American Culture (3)
Prerequisite: Anthropology 202 or consent of instructor. Application of anthropological methods, categories of analysis, and types of interpretation to American culture. Survey and critique of selected community studies and other kinds of relevant research.

361 Afro-American Culture (3)
Prerequisite: Anthropology 202 or consent of instructor. An introduction to African culture. A survey of African cultural characteristics in the New World, as they relate to contemporary events, including art, ideas, dance and literature.

370 Human Variation (3) (Formerly 441)
Prerequisite: Anthropology 201. Biological Science 313 and 412 are suggested. A survey of the processes underlying and the theories for the existence of the present variation between and within human populations. The genetics of human populations and the study of the significance of racial classifications. (2 hours lecture, 3 hours laboratory)

401 Ethnographic Field Methods (3)
Prerequisites: Anthropology 202 and six additional units of anthropology or consent of instructor. Anthropological field research by students on various problems using participant observation techniques.

403 Archaeological Fieldwork (3)
Prerequisites: Anthropology 202 or 203 and consent of instructor. Excavation of a local archaeological site. Archaeological mapping, photography and recording. Laboratory methods of cataloging, preservation, description and interpretation of archaeological materials. Saturday field sessions. May be repeated once for credit as an elective. (1 hour lecture, 6 hours laboratory)

404 Analytical Methods in Archaeology (3)
Prerequisites: Anthropology 203 and 403. The employment of various physical data collecting techniques (e.g., photographic, palaeo-magnetic) in the field and the analysis of artifact collections and data from previous field operations in the laboratory. May be repeated once for credit as an elective. (1 hour lecture, 6 hours laboratory)

405 Methods in Visual Anthropology (3)
Prerequisites: Anthropology 201, 202 and 203, or consent of instructor. Investigation of theory and uses of visual anthropology. The course integrates anthropological field research and audiovisual techniques. Students shall participate in field projects using various photographic equipment in conjunction with anthropological analysis.

406 Descriptive Linguistics (3)
(Same as Linguistics 406)

409 Anthropological Linguistics (3)
Nature and functions of language; language structure and change; classification of languages; use of linguistic evidence in anthropology. (Same as Linguistics 409)

410 Language and Culture (3)
Prerequisite: Anthropology 202 or consent of instructor. The study of language as a factor in culture. Trends in the study of language and culture. (Same as Linguistics 410)

411 Folklore (3)
Prerequisite: Anthropology 202 or consent of instructor. An introduction to the study of folktales, myths, legends, proverbs, riddles and other forms of the verbal traditions of peoples. Major concepts and theories and research methods in the study of folklore.

412 Myth, Legend and Folktale
A comparative survey of oral literature and its role in society. The types of oral narratives, their themes, meanings, and functions will be analyzed.

413 Ethnological Music (3)
Music, music making and musicians in various nonliterate societies.

415 Culture and Personality: Psychological Anthropology (3)
Prerequisites: Anthropology 202 or consent of instructor. Comparative study of the relationship between the individual and his culture. Child training in nonwestern cultures. Survey of important concepts, studies, and research techniques.

417 Life Quests (3)
An examination of contemporary ways to wisdom and humanness in cross-cultural and historical perspectives. A consideration of some new and comparative approaches to understanding the life cycle, development and fulfillment of individual personalities.

418 Mental Illness in Cross-Cultural Perspective (3)
Problems in the cross-cultural definition and treatment of mental illness. Cross-cultural perspectives on symptomatology and etiology, culture bound disorders, the folk healer, and the relationship between cultural change and mental disorders.

420 Primitive Value Systems (3)
Prerequisite: Anthropology 202 or consent of instructor. Study of what properly is considered "common sense" in the everyday life of people living within differing sociocultural environments.

421 Anthropology of Religion (3)
Prerequisite: Anthropology 202 or consent of instructor. Examination of beliefs and practices in the full human variation of religious phenomena, but with an emphasis on primitive religions. The forms, functions, structures, symbolism, and history and evolution of man's religious systems.

422 Jewish and Comparative Mysticism (3)
A description and analysis of Jewish mysticism, and its comparison with other systems of mysticism from different cultures.

423 Comparative Aesthetics and Symbolism (3)
An analysis of the metaphysical and mystical systems underlying the "grammars" of the art, poetry, languages, myths, music and rituals of various nonliterate and literate peoples and their development into creative experiences.

424 Hallucinogens and Culture (3)
Prerequisite: Anthropology 202. A cross-cultural survey of mind-altering drugs, especially hallucinogens, as they have been utilized in religion, healing, divination, witchcraft and magic.

425 Anthropology of Law and Government (3)
Prerequisite: Anthropology 202 or consent of instructor. Sources of law-government in primitive societies; the cultural background of law; the functions and development of law and government in primitive politics; transitions to and comparisons with classical and modern legal and political systems.

426 Urban Anthropology (3)
Prerequisite: Anthropology 202. A cross-cultural investigation of sociocultural similarities and differences in urbanism with an emphasis on current theoretical and methodological perspectives in the study of urban social forms and processes.

428 Social Anthropology (3)
Prerequisite: Anthropology 202 or consent of instructor. A study of the social organization of preindustrial societies; religious, political and economic institutions; status and value systems; conditions and theories of change.

429 Kinship and Social Organization (3)
Prerequisites: Anthropology 202 or consent of instructor. Kinship systems in primitive society and their significance in the organization of social life. Theories of kinship, marriage regulations, and kinship role patterns.

430 Economic Anthropology (3)
Prerequisite: Anthropology 202 or consent of instructor. A survey of the ethnology and ethnography of economic life, principally in non-Western societies with an emphasis on the operation of systems of production and distribution within diverse cultural contexts.

432 Woman in Cross-Cultural Perspective (3) (Formerly 303)
Prerequisite: Anthropology 202. A description, analysis and survey of the influence of biological determinants as they are shaped by cultural factors such as beliefs, values, expectations and socially defined roles for women. The changing role of women in industrial society will form an important analytical segment.

434 Anthropological Simulation Games (3) (Formerly 305)
Description, criticism, construction and participation in games simulating a variety of sociocultural situations.

436 Jazz: Past, Present and Future (3) (Formerly 315)
Jazz—its primitive and European roots; cross-cultural description of improvisation. Lectures, demonstrations, some concerts.

440 Human Evolution (3)
Prerequisite: Anthropology 201. Biological Science 404 is suggested. Advanced primate evolution with emphasis on the origin of *Homo sapiens* as evidenced in the fossil record and through biochemical and molecular studies. Evolutionary theory and problems in human evolution. (2 hours lecture, 3 hours laboratory)

442 Medical Anthropology (3)
A survey of human health and disease and their relationship to cultural practices, beliefs and environmental factors; histories of various diseases as factors of cultural change; examinations of varying health care delivery systems. (2 hours lecture, 3 hours laboratory)

450 Culture and Education (3)
Prerequisite: Anthropology 202 or Ed-TE 301 or consent of instructor. The transmission of values, implicit cultural assumptions, and the patterning of education in cross-cultural perspective, with special attention to American culture and development problems.

455 Ethno-ecology (3)
Prerequisites: Anthropology 202 and consent of instructor. A comparative study of culture determining man's impact on his environment. Our factual knowledge, different major approaches, important research issues, and methods of study will be the subject of this survey.

456 Anthropology of Ethnicity (3)
Prerequisite: Anthropology 202 or consent of instructor. A comparative study of social groupings that are formed on the basis of ethnicity, and includes an analysis of contemporary plural societies.

460 Culture Change (3)
Prerequisite: Anthropology 202 or consent of instructor. Interrelations between cultural, social and psychological processes in the dynamics of culture growth and change. Impact of western technology on tribal and peasant societies. Anthropological contributions to the planning of directed sociocultural change in selected areas.

461 Cultural Criticism (3)
Ideas and approaches that need to be synthesized in evaluating previous, existing or imagined (new) cultures or cultural expressions. Becoming a more effective cultural critic in our contemporary world.

462 Applied Anthropology (3)
The uses of anthropological skills and sensitivities in approaching contemporary human problems. Includes examination of issues related to directed cultural change, organizational development, program planning and evaluation, the consultant's role, and professional ethics.

465 Alternative Futures (3)
A study of the growing literature on the future and a consideration of its implications for anthropology and the other social sciences and humanities.

466 Myths for Moderns (3)
A comparative multidisciplinary exploration of the nature and needs for mythic types of belief systems in contemporary life. Examination and interpretation of selected myths.

470 Philosophical and Behavioral Foundations of Anthropology (3)
Prerequisite: Anthropology 202 and open to lower division students with the consent of instructor. Consideration of basic assumptions and contexts of anthropological work. The synthesis of ideas and methods into professional skills and careers.

480 History of Anthropology (3)
Prerequisite: Anthropology 202 or consent of instructor. A history of the principal contributions of leading anthropologists 1850–1950; review of evolutionary, diffusionist, historical, particularist, configurationalist, and culture and personality approaches in anthropology.

481 Contemporary Anthropology (3)
Prerequisite: Anthropology 202 or consent of instructor. A study of the principal contributions of anthropologists from 1950 to the present; review of neoevolutionist, sociological, structuralist, psychological and symbolic approaches in anthropology.

490 Undergraduate Seminar in Anthropology (3)
Prerequisite: consent of instructor. Topics in anthropology selected by the faculty and students participating in the course. May be repeated for credit.

491 Internship in Anthropology (3)
Prerequisites: 18 upper division units in anthropology and/or related fields. Career opportunities in anthropology. On-the-job training under faculty supervision will provide opportunity to translate theoretical concepts into vocational activity through museum, industry or governmental service.

499 Independent Study (1–3)
Prerequisites: at least 15 units of anthropology and consent of adviser. Student selection of an individual research project involving either library or fieldwork. Conferences with the adviser as necessary, and the work results in one or more papers. May be repeated for credit.

501 Seminar: Methodology of Anthropological Research (3)
Prerequisites: Anthropology 202, 401 and consent of instructor. Examination, analysis and evaluation of the contemporary methodological spectrum in anthropology and of new trends in research

planning and implementation. Consideration and critique of specific cases involving differing research designs.

502 Contemporary Theory in Cultural Anthropology (3)
Prerequisite: Anthropology 480 or consent of instructor. Critique of the basic assumptions and theoretical positions of leading contemporary anthropologists.

504 Seminar: Selected Topics in Anthropology (3)
Prerequisites: completion of undergraduate major in anthropology and/or graduate standing or consent of instructor. The topic chosen and a general outline of the seminar is circulated prior to registration. May be repeated.

505 Phonological Analysis (3)
(Same as Linguistics 505)

507 Grammatical Analysis (3)
(Same as Linguistics 507)

508 Theories of Syntax (3)
Same as Linguistics 508)

592 Field Methods in Linguistics (3)
(Same as Linguistics 592)

597 Project (3–6)
Prerequisites: graduate standing and consent of instructor. The completion of a project derived from original field or laboratory research, and/or on library study, and usually its analysis and evaluation. May be repeated for credit.

598 Thesis (3–6)
Prerequisites: graduate standing and consent of instructor. The writing of a thesis based on original field or laboratory research, and/or on library study, and its analysis and evaluation. May be repeated for credit.

599 Independent Graduate Research (1–3)
Prerequisite: consent of adviser. Individual research involving fieldwork, laboratory, or library study, and conferences with a project adviser as necessary, and resulting in one or more papers. May be repeated for credit.

DEPARTMENT OF CHICANO STUDIES

FACULTY
Isaac Cárdenas
Department Chair
Dagoberto Fuentes, Joseph Platt, Adolfo Ortega

BACHELOR OF ARTS IN THE CHICANO STUDIES OPTION OF ETHNIC STUDIES

The degree program in Chicano studies is designed to provide an effective vehicle in fulfilling a variety of pressing needs in contemporary higher education. Among these needs are to educate students to the culture, language, education, history, politics, and socioeconomics of the Chicano population in the United States.

The program emphasizes preparation for: (1) those interested in bilingual-bicultural education to meet elementary, secondary and cross-cultural specialist credentials; (2) students pursuing advanced degrees (M.A. and Ph.D.); (3) those entering a variety of occupations in urban affairs, government, social work, school administration, counseling, business, criminology, law, foreign service and other related areas; and (4) majors in other academic fields such as liberal studies, history, sociology, psychology, literature, anthropology, who wish to include additional scope to their field.

The Chicano studies major consists of 36 units, 12 lower and 24 upper division.*

	Units
Lower Division	12
Required:	
106 Introduction to Chicano Studies (3)	
220 Mexican Heritage (3)	
Electives:	
102 Communication Skills (3)	

* Students must consult with their advisers to develop an approved study plan.

120 Bilingual Oral Expression (3)
200 Chicano Movement (3)
213 Spanish for the Spanish Speaking (3)
215 Chicano Creative Writing (3)
218A Survey of Chicano Culture (3)
218B Survey of Chicano Culture (3)

Upper Division 24

Required: (6 units to be selected from the following)

430 The Evolution of Mexican Literature (3)
440 Mexican Intellectual Thought (3)
445 History of the Chicano (3)
453 Mexico since 1906 (3)

Electives:

233 Introduction to Mexican Folk Dance for Elementary and Secondary Teachers (3)
300 Barrio Conversational Spanish (3)
302 Ancient Mexican Culture (3)
305 The Chicano Family (3)
306 Barrio Studies (3)
307 Barrio Studies (3)
318 Cultural Pluralism in American Educational Institutions (3)
320 Chicano Art (3)
336 Main Trends in Spanish-American Literature (3)
337 Contemporary Chicano Literature (3)
360 Chicanos and the Law (3)
403 Cultural Differences in Mexico and the Southwest (3)
406 La Chicana (3)
411 Mexican Arts and Mexican Society (3)
415 Chicano Music Appreciation (3)
420 Spanish for the Elementary School Teacher in the Barrio (3)
430 The Evolution of Mexican Literature (3)
431 The Chicano Child (3)
432 The Chicano Adolescent (3)
433 Mexican Literature Since 1940 (3)
438 Issues in Bilingual/Cross-Cultural Education (3)
440 Mexican Intellectual Thought (3)
441 Religion in the Chicano Society (3)
445 History of the Chicano (3)
450 The Chicano and Contemporary Issues (3)
453 Mexico Since 1906 (3)
460 The Chicano and Politics (3)
497 Ethnic Internship (3)
499 Independent Study (1–3)

Total 36

MINOR IN CHICANO STUDIES

The minor in Chicano studies consists of 24 units in the following areas:

Required lower division courses (6 units)

106 Introduction to Chicano Studies (3)
220 Mexican Heritage (3)

Required upper division courses (6 units)

430 The Evolution of Mexican Literature (3)
440 Mexican Intellectual Thought (3)
453 Mexico Since 1906 (3)

Approved electives

Twelve units of approved coursework in lower and upper division classes that are selected by the adviser.

TEACHER CREDENTIAL REQUIREMENTS

The B.A. in Chicano studies are approved by the State Board of Education for those seeking a single subject or multiple subject (Ryan) teaching credential. Additionally, the department has been

approved for waiver of the examination requirement for Chicano studies major with a multiple subject credential objective.

Students should consult an adviser in the department and in the School of Education for meeting teaching credential requirements and waiver information.

THE BILINGUAL/CROSS-CULTURAL SPECIALIST CREDENTIAL PROGRAM

Requirements for this credential are described in a brochure available at the offices of the Department of Chicano Studies, the Department of Foreign Languages and Literatures, or the School of Human Development and Community Service. The Chicano studies component of the specialist credential program requires nine units from the following Chicano studies courses:

300 Barrio Conversational Spanish (3)
403 Cultural Differences in Mexico and the Southwest (3)
420 Spanish for the Elementary School Teacher in the Barrio (3)
431 The Chicano Child (3)
432 The Chicano Adolescent (3)
438 Issues in Bilingual/Cross-Cultural Education (3)
445 History of the Chicano (3)
450 The Chicano and Contemporary Issues (3)

CHICANO STUDIES COURSES

102 Communication Skills (3)
A methodical presentation of the basic communication skills emphasizing oral and written expression which shall include a unit on the mechanics of writing and reporting on a term paper.

106 Introduction to Chicano Studies (3)
A study of the role of the Chicano in the United States. Special emphasis on the Chicano's cultural values, social organization, urbanization patterns, and the problems in the area of education, politics and legislation.

200 The Chicano Movement (3)
The history of the Chicano movement, its present activists and their intellectual philosophies.

213 Spanish for the Spanish-Speaking (3)
The Spanish language as it is spoken in the United States today. Designed to improve the basic communication skills in Spanish for students from Spanish-speaking backgrounds; emphasis on vocabulary building, syntactical analysis and conversation. Designed for Chicano students but not restricted to them.

215 Chicano Creative Writing (3,3)
Chicano creative writing utilizing the barrio's trilingual expressions. Student work as well as the work of contemporary Chicano writers will be analyzed.

218A,B Survey of Chicano Culture (3)
The Chicano's cultural heritage from the pre-Cortesian period to the present. A historical analysis of the music, literature, art and dance of the Chicano. **A**—Literature and art. **B**—History, music and dance.

220 Mexican Heritage (3)
Introduction to the basic characteristics of the Mexican, especially the Chicano society and culture and its ramifications in the United States today. Covers the period of 1519 to the present day. Emphasis on the arts, literature and history of Mexico and the Chicano in the United States.

233 Introduction to Mexican Folk Dance for Elementary and Secondary Teachers (3)
A variety of basic folk dances indigenous to various regions in Mexico that can be applied in elementary and secondary classroom settings. No previous knowledge of dance skills required.

300 Barrio Conversational Spanish (3)
Analysis of the Caló language of the southwestern states of the United States. Students will study the bicultural language of the Chicanos, origin, development and contemporary use in the barrios.

302 Ancient Mexican Culture (3)
A historical and cultural survey of the principal pre-Columbian cultures of Mexico and their significance for Mexican society.

305 The Chicano Family (3)
The Chicano family development as an American social institution. Historical and cross-cultural perspectives. The socio- and psychodynamics of the Chicano family.

306 Barrio Studies (3)
Prerequisite: Chicano Studies 200 or 220 or consent of instructor. Classroom instruction covering the major characteristics of the barrio. Supervised fieldwork in the barrio is required. Analysis of the barrio or agency wil be made after fieldwork is completed. (2 hours lecture, 3 hours fieldwork)

307 Barrio Studies (3)
Prerequisite: Chicano Studies 306. Classroom instruction covering the major characteristics of the barrio and supervised fieldwork in the local barrios. An analysis of the barrio or agency will be made after fieldwork is completed. (2 hours lecture, 3 hours fieldwork)

318 Cultural Pluralism in American Educational Institutions (3)
(Same as Afro-ethnic Studies 318)

320 Chicano Art (3)
An overview of Mexican art forms from pre-Cortesian epoçhs to the contemporary artists, with emphasis on the use of oil painting techniques as employed by modern Mexican and Chicano artists.

336 Main Trends in Spanish-American Literature (3)
The main currents of Spanish American literature emphasizing contemporary works. Close attention given to the relation between the artistic expression and the ideological values of the period.

337 Contemporary Chicano Literature (3)
Prerequisite: Chicano Studies 101 or 106, or 220, or 237, or consent of instructor. The modern Chicano writers in the United States. Special emphasis will be given to Allurista, Corky Gonzales, Octavio Romano, el treatro campesino and the major Chicano magazines and newspapers.

360 Chicanos and the Law (3)
An analysis of the relationship between Chicanos and the legal and judicial system, covering such topics as the administration of justice, Chicano-police relations, and Chicanos and the prison system. Guest speakers will be a regular feature.

403 Cultural Differences in Mexico and the Southwest (3)
The cultural conflicts in Mexico as seen by the contemporary thinkers of Mexico and the United States. Special emphasis will be given to the urban and rural problems.

406 La Chicana (3)
An analysis of the cultural influences that the family, religion, economic status and community play upon the lifestyles, the values and the roles held by Chicanas.

415 Chicano Music Appreciation (3)
A survey of Mexican music ranging from the pre-Cortesian period to the present in Mexico and in the southwestern states of the United States. The history and music are presented by lectures and recordings.

420 Spanish for the Elementary School Teacher in the Barrio (3)
Designed to improve the oral expression of teachers in the barrio elementary schools. Special emphasis will be given to the language patterns of the Chicano students and their parents.

430 The Evolution of Mexican Literature (3)
Survey and analysis of the Nahautl, Mexican and Chicano literature from the pre-Columbian period to the present. The latter part of the course will focus on contemporary Chicano writers.

431 The Chicano Child (3)
Study of the Chicano child from preschool through grade six. Emphasis on motor, physical, social, intellectual and emotional growth and development and their effect on school adjustment and achievement. Observation of preschool and grade school children will be arranged.

432 The Chicano Adolescent (3)
A survey of the Chicano adolescents' social, intellectual and emotional growth and development. Special emphasis will be placed on the bicultural pressures from the barrio, family structure, school and achievement values.

433 Mexican Literature Since 1940 (3)
An in-depth study and analysis of the literature of Mexico since 1940. Emphasis on the works of Carlos Fuentes, Luis Spota, Rodolfo Usigli, Xavier Villarrutia, Juan Jose Arreola, Octavio Paz, Roberto Blanco Moheno and Luis G. Basurto.

438 Issues in Bilingual/Cross-Cultural Education (3)
An examination of the Chicano community involvement in issues of bilingual-bicultural education. Chicano education literature, legislation, court decisions, political issues and programmatic efforts will be emphasized.

83 8 11 335

440 Mexican Intellectual Thought (3)
Prerequisite: reading knowledge of Spanish and Chicano Studies 237 and 302 recommended. Study and discussion of the emergence of the Chicano movement dealing with political, economic and sociological facets. Analyzes the writings of the Nahautl, Spanish, Spanish-American and Chicano writers with special attention on the contemporary writers.

441 Religion in the Chicano Society (3)
Prerequisite: Chicano Studies 220 or consent of instructor. A comparative study of American Protestant and Mexican Catholic thought and their influence on the values held by Anglos and Chicanos. Special emphasis will be placed on the contemporary issues.

445 History of the Chicano (3)
History of the Chicano from the pre-Columbian period to the present. Special emphasis on the Chicanos' changing role in the United States, their cultural identity crisis and their achievements.

450 The Chicano and Contemporary Issues (3)
Analysis and discussion of the socioeconomic and political problems confronting the Chicano with emphasis on proposed solutions. Particular focus on the effect that social institutions have had on the Chicano community. Study and research will be made in these areas.

453 Mexico Since 1906 (3)
Prerequisite: upper division class standing. A study of the Mexican Revolution of 1910 stressing the political, economic and social features of this period. Special emphasis on the Revolution and its contributions in the fields of art, literature and social reforms.

460 The Chicano and Politics (3)
Theory of urban politics and evaluation of issues that affect the Chicanos and American society. Evaluations and surveys will be made on political organizations in the Hispanic-surnamed communities.

497 Ethnic Internship (3)
(Same as Afro-ethnic Studies 497)

499 Independent Study (1–3)
Prerequisites: senior level and approval by the department chair and instructor(s) in charge of directing the study. An opportunity to do independent study under the guidance of the faculty, of a subject of special interest to the student.

DEPARTMENT OF COMMUNICATIONS

FACULTY
Kenward Atkin
Department Chair
James Alexander, Fenton Calhoun, Ronald Dyas, James Fields, George Fukasawa, Mary Lynn Hartman, Teresa Hynes, Carolyn Johnson, Raynolds Johnson, Frank Kalupa, John Kaufman, Mary Koehler,* George Mastroianni, J. William Maxwell, Norman Nager, Rick Pullen, Lewis Riley, Marvin Rosen, Ted Smythe, Harry Sova, Edgar Trotter, Larry Ward

Effective ethical communications are essential for the well-being of a democratic society. Thus there is a need for persons trained in the theory and practice of informing, instructing, and persuading through communications media. The educational objectives of the programs leading to the Bachelor of Arts in Communications are: (1) to ensure that all majors receive a broad liberal education; (2) to provide majors with a clear understanding of the role of communications media in society; and (3) to prepare majors desiring communications-related careers in the mass media, business, government and education by educating in depth in one or more of the specialized emphases within the department.

A master of arts program in communications provides advanced study in communications and related disciplines for those seeking professional careers in teaching, research and development, and mass media.

BACHELOR OF ARTS IN COMMUNICATIONS

A communications major is required to take 15 units of core requirements in addition to 21 units in a chosen emphasis. The department offers six emphases to choose from: advertising, news (journalism), photocommunications, public relations, technical and business communications, and telecommunications. Special emphases designed to meet the needs and interests of individual students also may be arranged.

* University administrative officer

Collateral requirements: Twelve units of upper division coursework in other departments approved by the adviser are also required. Collateral courses for each emphasis are recommended by the emphasis coordinator. The major totals 48 units.

A minimum of 65 percent of the total units taken before graduation must be taken outside the Communications Department.

Passage of the Communications Department English Usage Test is a prerequisite for Com 101, 201, 301, 332, 338, 353, 362, 371 and 453. Please check with the department office for details.

Com 496 and 499 may be repeated up to a maximum of four units either separately or in combination.

COMMUNICATIONS CORE

Coordinator: J. William Maxwell

Nine units of required coursework:

Com 233 Mass Communication in Modern Society (3)
Com 407 Communications Law (3)
Com 425 History and Philosophy of American Mass Communication (3)

Plus six units selected from the following:

Com 410 Principles of Communications Research (3)
Com 426 World Communication Systems (3)
Com 427 Current Issues in Mass Communication (3)
Com 428 Communications and Social Change (3)
Com 431 Mass Communications in Communist Systems (3)
Com 480 Persuasive Communications (3)
Com 481 Communications and Conflict in the 20th Century (3)
Com 482 Communications and Popular Culture (3)

The communications core provides background and perspective appropriate to all the departmental emphases and an understanding of the special role of communicators and their contribution to the development of high standards of professionalism.

COMMUNICATIONS EMPHASES

Every communications major must select and complete 21 units of coursework in a major emphasis.

ADVERTISING

Coordinator: Fenton Calhoun

Com 101 Communications Writing (3)
Com 350 Introduction to Advertising (3)
Com 353 Advertising Copy and Layout (3)
Com 358 Graphics Communications (3)
Com 439 Mass Media Internship (3)
Com 446 Advertising and Media Management (3)

Plus three units selected from the following:

Com 354, 381, 451, 453

And 12 collateral units of upper division courses beyond general education approved by adviser.

The objective of the advertising emphasis is to prepare students for entry level positions in one or more of the four basic advertising activities: creative (copy, layout design), media representation, research and management. Students are provided with knowledge and skills needed for work with an advertiser, advertising agency, the print and broadcast media, or support service industry.

NEWS COMMUNICATIONS (JOURNALISM)

Coordinator: John Kaufman

Com 101 Communications Writing (3)
Com 201 Communications Writing (3)
Com 217A Introduction to Black-and-White Photography (1)
Com 319 Communications Photography (2)
Com 332 Copy Editing and Makeup (3)
Com 335 Reporting of Public Affairs (3)
Com 338 Newspaper Production (3)
Com 439 Mass Media Internship (3)

And 12 collateral units of upper division courses beyond general education which must be selected

from the following list of approved courses, and this selection must represent at least one course from each of four departments: English 322, 462, 463, 464; History 476; Sociology 341, 345, 348; Political Science 300, 310, 350, 413; Economics 332, 333, 334 and 350.

The principle objective of the news communications (journalism) emphasis is to provide the skills and practice necessary for careers in the print media. Specifically, the journalism sequence objectives are: (1) to provide experience in writing various types of news stories, and to develop skills in reporting and news gathering techniques; (2) to develop critical acumen necessary to check news stories for accuracy and correctness; (3) to develop photographic skills that complement the journalistic writing skills; (4) to provide actual on-the-job experience through working on the campus newspaper and through an internship; and (5) to add breadth and depth to the professional's specialized skills through collateral courses.

PHOTOCOMMUNICATIONS

Coordinator: Marvin Rosen

Six units of writing courses selected from the following: Com 101, 201, 301, 334, 353, 362.

Com 240 History of Photojournalism (3)
Com 217A,B Introduction to Black-and-White Photography (2)
Com 319 Communications Photography (2)
Com 306 Photocommunications Production (2)
Com 439 Mass Media Internship (3)

Plus three units selected from the following:

Com 217C, 220A,B,C, 321, 311, 338, 340, 359

And 12 collateral units of upper division courses beyond general education approved by adviser.

The emphasis in photocommunications provides a comprehensive study of the theories and practices of photography for intelligent applications of principles to produce photographs acceptable to the mass media.

PUBLIC RELATIONS

Coordinator: Frank Kalupa

Com 101 Communications Writing (3)
Com 361 Theories and Principles of Public Relations (3)
Com 362 Public Relations Writing (3)
Com 439 Mass Media Internship (3)
Com 463 Public Relations Methods (3)

Plus six units selected from the following:

Com 217A,B,C; 301; 332; 338; 350; 358; 359; 363; 446; 465; 497

And 12 collateral units of upper division courses beyond general education approved by adviser. Recommended departments include Management, Marketing, Psychology, Sociology, Political Science and Speech Communication.

This program provides intensive preparation in both theory and practice of two-way communication for prospective professional public relations careers in business, industry, government, and nonprofit sectors of society.

TECHNICAL AND BUSINESS COMMUNICATIONS

Coordinator: Carolyn Johnson

Com 101 Communications Writing (3)
Com 439 Mass Media Internship (3)

An additional six units from the following:

Com 201 Communications Writing (3)
Com 301 Writing for Telecommunications (3)
Com 334 Feature Article Writing (3)
Com 358 Graphics Communications (3)

Plus nine units selected from the following:

Com 217A,B; 303; 332; 359; 375; 382; 403

And 12 collateral units of upper division courses beyond general education approved by adviser.

This emphasis provides the knowledge and skills necessary for careers in technical and business communications in industry. Particular attention is being paid to preparing students so that their talents and interests and the needs of industry are matched.

*TELECOMMUNICATIONS

Coordinator: George Mastroianni

Com 301 Writing for Telecommunications (3)
Com 371 Radio Television News and Public Affairs (3)
Com 382 Broadcasting in America (3)
Com 390 Introduction to Telecommunications Production (3)
Com 439 Mass Media Internship (3)

Plus six units selected from the following:

Com 217A,B; 220; 290; 311; 335; 375; 381; 411; 473; 475; 477; 479; 490

And 12 collateral units of upper division courses beyond general education approved by adviser.

Courses in this emphasis are designed for an understanding of the history, theory and practice of radio-television and film. Students are prepared for entry level positions in business, education, the broadcasting and film industries.

SPECIAL EMPHASIS

Coordinator: Terry Hynes

Students whose interests involve more than one emphasis may seek approval of a special emphasis. Minimum requirements for the special emphasis are the same as for other emphases:

15 units of core requirements; 21 units of coursework in communications, at least six of which will be in writing courses and 12 in upper division; and 12 collateral units of upper division courses in other departments. Approval of the special emphasis plan must be sought in advance from the Department of Communications. For further details, contact the special emphasis coordinator.

INTERNSHIP PROGRAM

The Department of Communications has developed an internship program designed to provide academic and practical experience for students in all emphases. The student must apply for work experience one semester in advance of the senior level semester in which the internship is to be completed. Supervision is provided by the internship coordinators and the cooperating agency. (C/NC only.)

TEACHER CREDENTIAL REQUIREMENTS

The department offers major and minor programs approved by the State Board of Education for those seeking an elementary or secondary teaching credential. For advisement, consult the department and an adviser in the School of Human Development and Community Service.

Elementary

Communications majors may earn the multiple subject credential under the Ryan Act without being required to take the teacher examination. All departmental emphases qualify for this program under an approval granted by the California State Commission for Teacher Preparation and Licensing. Interested students should consult the department's multiple subject credential adviser at an early date to develop an approved study plan.

Secondary

Communications majors planning a teaching career at the secondary level must complete the communication core and News Communication emphasis.

In addition, it is recommended that a student have at least one semester of Communications 358 or 359. The student must also fulfill professional education course requirements. Journalism Education 442 (Student Teaching) is offered by the department. (See "Journalism Education.")

MASTER OF ARTS IN COMMUNICATIONS

The Master of Arts in Communications is designed to provide advanced study in communications theory and research plus some concentration in an area of specialization: advertising, news communications, public relations, or telecommunications.

Students completing the Master of Arts in Communications with an emphasis in journalism education research are eligible for journalism teaching positions in high school or community college.

Prerequisites

An applicant must meet the university requirements for admission to conditionally classified graduate

*Telecommunications students who wish to emphasize film in broadcasting should take six units of writing including Com 301; Com 290A or 290B; 311; 375; 411; and 439.

standing: a baccalaureate degree from an accredited institution and a grade-point average of at least 2.5 in the last 60 semester units attempted (see section of this catalog on admission of graduates for complete statement and procedures), and completion of the Graduate Record Examination Aptitude test. (see *Graduate Bulletin*).

A student who meets the requirements for conditionally classified graduate standing, as well as the following requirements, may be admitted as a classified graduate upon the development of an approved study plan: an undergraduate grade-point average of 2.75 or 3.0 in the major; and satisfactory coursework appropriate for the emphasis selected. Subject matter deficiencies and prerequisites, as determined by the emphasis adviser and approved by the department graduate adviser, are to be removed prior to advancement to candidacy.

Study Plan

Students are required to complete a minimum of 30 units of approved study, half of which must be in 500-level communications courses and 15 units of emphasis-related courses. Six of the 15 units of graduate level communications courses are applicable to the thesis or project requirement.

For further information, consult the Department of Communications. See also "The Program of Master's Degrees" in this catalog and the *Graduate Bulletin.*

COMMUNICATIONS COURSES

100 Introduction to Communications (3)
A survey of the mass media and their relationship to society today.

101 Communications Writing (3)
Prerequisite: Communications Department English Usage Test. Introductory course covering principles and practices of writing for major types of mass communications media. with emphasis on content, organization, conciseness and clarity. Typing ability required.

103 Applied Writing (3)
Principles and practice in organizing and preparing letters, reports, documents, and proposals required in most occupations. Designed especially for non-communications majors.

201 Communications Writing (3)
Prerequisites: Communications Department English Usage Test and Com 101 or equivalent. Concentration on writing of more advanced material, reporting skills and methods of gathering facts for news and feature stories. Typing ability required.

217A Introduction to Black and White Photography (1)*
Camera, accessories, materials, exposure, processing, printing, finishing and composition.

217B Introduction to Black and White Photography (1)
Prerequisite: Com 217A or concurrent enrollment. Filters, flash, studio techniques and composition.

217C Introduction to Black and White Photography (1)
Prerequisite: Com 217B. May not be taken concurrently. Composition, subject treatments, special techniques and applications.

220A Introduction to Color Photography (1) *
Prerequisite: Com 217 or concurrent enrollment. Theories of light and color. Principles of color photography. Students use commercially processed color transparency film. (No laboratory)

220B Introduction to Color Photography (1) *
Prerequisite: 220A or concurrent enrollment. Color slides in communication. Developing theme and story in slide presentations. (No laboratory)

220C Introduction to Color Photography (1)
Prerequisite: 220B or concurrent enrollment. Theory and principles of color film and print processing. Limited laboratory practice in negative and positive film processing.

233 Mass Communication in Modern Society (3)
Basic structure and interrelationships of newspapers, magazines, films, radio and television, in terms of their significance as social instruments and economic entities in modern society.

234 Sports Writing (3)
Prerequisite: Com 101 or equivalent. Preparation and writing of sports articles for specific audiences.

* Students wishing a non-laboratory introduction to photography may enroll in Com 220A,B.

240 Pictorial Journalism in America (3)

Traces the development of pictorial reportage in America as a means of mass communication and social influence through the works of significant historical and contemporary pictorial journalists. Surveys the forms and media of modern pictorial journalism, their uses and effects. Individual projects.

290A,B History and Aesthetics of Motion Pictures (3,3)

History and development of the motion picture as an art form and social force. A—the motion picture from its origins until 1945. B—the contemporary cinema from 1945 to present. (Same as Theatre 290A,B)

301 Writing for Telecommunication (3)

Prerequisite: Communications Department English Usage Test. An introduction to theory and principles of writing employed in the broadcast and film media.

303 Business Communications (3)

Design and implementation of communications systems for various business enterprises. Utilizes graphic analysis and analytical techniques. Includes practice in producing messages and channeling them to avoid ambiguities.

306 Photocommunications Production (2)

Prerequisite: seven units of photography or consent of instructor. Advanced production of photographs and photographic communications for the mass media, business, education, government, industry and science. (1 hour lecture, 3 hours activity)

311 Introduction to Motion Picture Production (3)

Prerequisite: Com 217A,B or equivalent. Introduction to theory and practice of motion picture photography and film production. (2 hours lecture, 3 hours laboratory)

319 Communications Photography (2)

Prerequisite: Com 217A,B or consent of instructor. Creative aspects and techniques of making photographs for publication: newspaper and magazine news, advertising, feature, sports and women's pages. (1 hour lecture, 3 hours laboratory)

321 Advanced Color Photography (2)

Prerequisites: Com 217A,B,C. Positive and negative color film processing, sensitometry, and color printing.

332 Copy Editing and Makeup (3)

Prerequisites: Communications Department English Usage Test and Com 201 or equivalent. Principles and practice of newspaper editing: copy improvement, headline writing, news photos and cutlines, wire services, typography, copy schedules and control, page design and layout, law and ethics. (2 hours lecture, 3 hours lab)

334 Feature Article Writing (3)

Prerequisite: Com 101 or equivalent. Nonfiction writing for newspapers and magazines, including study of sources, methods and markets.

335 Public Affairs Reporting (3)

Prerequisites: Com 101 and 201, or consent of instructor. Com 407 recommended. Reporting public interest news such as courts, education, finance, government, police and urban problems.

338 Newspaper Production (3)

Prerequisites: Communications Department English Usage Test, Com 201 or equivalent and consent of instructor. A lecture activity course in which members of the class constitute the editorial staff of the university newspaper. The group meets four hours per week for critiques in news reporting, writing, editing and makeup, followed by production. With consent of instructor, the course may be repeated for a maximum of six units of credit. (More than 9 hours laboratory)

340 Photography in Advertising and Public Relations (2)

Prerequisite: a basic course in photography. Trends and practices in advertising and public relations photography. Materials and techniques for producing color and black-and-white photographs with visual impact suitable for photoreproduction. Techniques for shooting outdoors and indoors under studio and natural conditions. Students prepare a portfolio of photographs. (1 hour lecture, 3 hours activity)

350 Introduction to Advertising (3)

Survey of advertising in America. Emphasis on the language and art of advertising and its role in marketing.

353 Advertising Copy and Layout (3)

Prerequisites: Communications Department English Usage Test and Com 101, 350 or consent of instructor. Writing of copy and layout of advertisements, based on study of sales appeals, attention factors and illustrations. (2 hours lecture, 2 hours laboratory)

354 Retail Advertising (3)
Prerequisites: Com 350, 353, or consent of instructor. Principles and procedures of retail advertising and sales; supervised field assignments in the analysis of specific advertising needs. (1 hour lecture, 4 hours activity)

358 Graphics Communications (3)
A lecture/activity class covering basic principles of graphic communication. Areas studied include printing processes, publication formats, copy preparation, copy-fitting techniques, layout principles, paper selection and distribution methods. (1 hour lecture, 4 hours activity)

359 Publications Production (2)
Prerequisite: Com 358 or consent of instructor. A production class for development of student publications, including the university magazine, authorized by appropriate university authorities. Activities include writing articles, editing copy, taking photographs and preparing layouts. (More than 6 hours laboratory)

361 Principles of Public Relations (3)
Examination of the social, behavioral, psychological, ethical, economic and political foundations of public relations, as well as the theories of public relations as a communications discipline.

362 Public Relations Writing (3)
Prerequisites: Communications Department English Usage Test and Com 101 or consent of instructor. A course in the practice of writing for business, industry and nonprofit organizations. Emphasis on creating effective forms of public relations communication.

363 Publications Editing (3)
Prerequisites: Com 361 and six units of communications writing or consent of instructor. Theory and practice of editing functions and techniques involved in creative development of publications for business, industry and nonprofit organizations and institutions. Emphasis on magazines, newspapers, newsletters and brochures.

371 Radio-Television News and Public Affairs (3)
Prerequisites: Communications Department English Usage Test and Com 101 or 301 and Com 382 and 390. Theory and practice of covering news events and public affairs for radio and television. (2 hours lecture, 3 hours lab)

375 The Documentary Film (3)
Purpose, development, current trends, critical analysis and production requirements of the documentary film. Future of the medium in business, government, education and television.

378 Introduction to Audio Production (3)
Prerequisite: Communications majors only. A lecture and laboratory course in the fundamental theory and practice of audio production as it pertains to radio broadcasting, commercial production and recording, television and film audio. (2 hours lecture, 3 hours laboratory)

381 Broadcast Advertising (3)
Prerequisite: Com 350 or consent of instructor. Study of television and radio as advertising media. Planning advertising campaigns, costs and coverage. (2 hours lecture, 3 hours laboratory)

382 Broadcasting in America (3)
Prerequisite: Communications major or consent of instructor. The foundation course of the Telecommunications Emphasis. Designed to provide background in all aspects of radio and television from a professional perspective. Concentration on economic, historical, regulatory aspects and the social effects of these media.

390 Introduction to Telecommunications Production (3)
Prerequisite: Com 382. Basic theory and practice of radio and television program production. (2 hours lecture, 3 hours laboratory)

401 Report Writing (3)
Planning, organizing, and writing of reports for business, education and government. Practice will be given in use of graphic aids and preparation of copy for reports that are to be printed. Recommended for non-majors.

407 Communications Law (3)
Prerequisites: Com 233 and junior standing. The Anglo-American concept of freedom of speech and press; statutes and administrative regulations affecting freedom of information and publishing, advertising and telecommunication. Libel and slander, rights in news and advertising, contempt, copyright and invasion of privacy.

103 8 11 435

410 Principles of Communication Research (3)
Prerequisites: Com 233 and junior standing. Survey of research methods used to assess the effects of print, broadcast and film communications on audience attitudes, opinions, knowledge and behavior. Basic concepts of research design and data analysis in communications research.

411 Advanced Motion Picture Production (3)
Prerequisites: Com 217A, 311, 301 or concurrent enrollment, or consent of instructor. Advanced theory, procedures and practice in film production: motion picture (silent and sound), script-writing, transfer and mixes, production, distribution and financing. (2 hours lecture, 3 hours lab)

420 Writing the Nonfiction Book (3)
Prerequisite: consent of instructor. Step-by-step instruction to assist and guide serious writers in topic selection, outline preparation, research organization and writing of nonfiction books suitable for publication.

425 History and Philosophy of American Mass Communication (3)
Prerequisites: Com 233 and junior standing. American mass communication, beginning with newspapers and periodicals and continuing through radio and television, includes ideological, political, social and economical aspects.

426 World Communication Systems (3)
Prerequisites: Com 233 and junior standing. Major mass communication systems, both democratic and totalitarian, and the means by which news and propaganda are conveyed internationally.

427 Current Issues in Mass Communication (3)
Prerequisites: Prerequisites: Com 233, 407 and 425. Mass media regulation by the government, "objective" versus "interpretive" news reporting and ethical and legal questions of particular cases.

428 Communications and Social Change (3)
Prerequisites: Com 233 and junior standing. Study of how innovations—ideas, products, and practices perceived as new—are communicated to members of a social system. Examines the roles of adopters, opinion leaders, change agents, and communications as they relate to the diffusion of innovations and consequent changes in social systems.

430 Newspaper Management (3)
Prerequisite: consent of instructor. Organization, operation and administration of a newspaper's departmental activities: advertising, business, circulation, mechanical, news-editorial, and promotion. (3 hours lecture, field trips, detailed study of one selected newspaper department)

431 Mass Communications in Communist Systems (3)
Mass media in Communist societies, particularly the U.S.S.R., the People's Republic of China, Poland and Yugoslavia. Emphasis on the interrelationships of the mass media, people and party.

435 Editorial and Critical Writing (3)
Prerequisite: Com 101 and upper division writing course. The roles and responsibilities of the editorial and critical writer and opinion columnist provide the general scope of the course, with emphasis upon techniques of editorial writing and aspects of critical thinking. (2 hours lecture; 2 hours lab and fieldwork)

436 Investigative and Specialized Reporting (3)
Prerequisites: Com 332, 335 and 407. Investigative and interpretive reporting of complex or specialized subjects to place news in perspective or to clarify situations writing for specific audiences.

439 Mass Media Internship (3)
Prerequisites: senior standing, communications major and consent of instructor. Student serves supervised internship, according to emphasis, with newspaper, magazine, radio or television station, press association, public relations firm or advertising agency. Application must be made through department coordinator one semester prior to entering program. (C/NC only)

442 Film Directors and Genres (3)
Prerequisite: Com 290A or B or consent of instructor. An examination of films of significant directors, specific nations, or film genres, concentrating on historical, social and aesthetic qualities.

446 Advertising and Media Management (3)
Prerequisite: Com 350 or Marketing 354. Principles and problem-solving techniques underlying the management of the advertising function; procedures and processes leading to sound decisions in solving advertising problems and utilization of the mass media.

451 National Advertising Campaigns (3)
Prerequisites: Com 350 and 353 or consent of instructor. Advanced study of advertising campaigns and utilization of mass media—such as television, newspapers and magazines—in national advertising programs. Design of complete campaigns from idea to production readiness.

453 Advanced Advertising Copywriting (3)
Prerequisites: Communications Department English Usage Test, Com 350 and 353. An intense discussion/activity course in the practical problems and creative solution of professional advertising copywriting. Interpreting the marketing strategy for creative platform, theme and execution in writing advertising copy for the mass media. In-class assignments on real accounts.

463 Public Relations Methods (3)
Prerequisite: Com 361 or consent of instructor. Techniques used for effective public relations in both personal and mass communications.

465 International Public Relations (3)
Public relations principles applied to international operations, both private and public.

473 Telecommunications Regulation (3)
Prerequisite: Com 382. Self-regulation, governmental regulation and international regulation of broadcast programming.

475 Telecommunications Programming
Prerequisite: Com 382. Theory and practice of programming for television and radio, which will include student participation in the computer programming game SIMTEL.

477 Telecommunications Station Management (3)
Prerequisite: Com 382. Management functions and policies of broadcasting stations and networks. Effects of government, public opinion, employee groups and ownership. Technical, legal, financial and other obligations. Students will participate in a computer television station management game.

479 Advanced Telecommunication Production (3)
Prerequisite: Com 382 and 390 or consent of instructor. Advanced techniques in producing television-radio programs. (2 hours lecture, 3 hours laboratory)

480 Persuasive Communications (3)
Prerequisites: Com 233 and junior standing. Processes and effects of persuasive communications applied to mass communication. Interaction of the communicator, audience, message content and structure, and social context in influencing attitudes, beliefs, and opinions.

481 Mass Communication and Conflict (3)
Prerequisites: Com 233 and junior standing. Study of changes and similarities in the mass communication of selected conflict issues over the past 75 years, including war and peace, the role of women, and various reform movements. Undergraduate seminar.

482 Communication and Popular Culture (3)
Prerequisites: Com 233 and junior standing. Analysis of various critical positions regarding mass communication and popular culture, specifically those critical views which interrelate both. Course includes an exploration of some significant themes in American popular culture from a mass communication perspective. Undergraduate seminar.

485 Film Production (3)
Prerequisites: Com 311, 375 and 411 or consent of instructor. Fundamentals of documentary film production planning and execution. (2 hours lecture, 3 hours laboratory)

489 Television Production Activities (3)
Prerequisite: six units of television courses or equivalent and/or consent of instructor. Honors course. Students develop, write, produce and direct regular programs of information, instruction or diversion for distribution on the campus-wide closed-circuit television system and area cable systems. (6 hours activity)

490 Film Theory (3)
Prerequisite: Com 290A and/or 290B or equivalent or consent of instructor. Analytical and comparative study of theories relating to film-making; nature of the film medium.

496 Student-to-Student Tutorial (1–3)
Prerequisite: consent of instructor and previous superior performance in a similar or equivalent course. Under faculty supervision, student provides tutorial assistance to students in a communications course. Tutoring may involve small group demonstrations and discussions, individual tutoring, and evaluation of student performance as appropriate. (May be repeated)

497 Seminar in Public Communications Practices (3)
Prerequisite: Com 463 and consent of instructor. Examination of the vital role of public relations in contemporary society. Emphasis on ethics, social responsibilities and future trends in the emerging profession.

499 Independent Study (1–3)
Prerequisite: consent of department chair. Individually supervised mass media projects and research on campus and in the community. May involve newspaper and magazine publishers, radio and television stations and public relations agencies. May be repeated.

500 Theories and Literature of Communication (3)
Theoretical study and review of research on communication processes and effects in terms of source, media, message, audience and content variables. Types, sources, and uses of communication literature.

503 Practicum in Instructional Communication (3)
Principles of programmed instruction applied to achieve training objectives through the use of the communication media. Includes development and empirical tryout of short programs in print, film, and/or broadcast media utilizing behavioral analysis of typical audiences to assess program effects.

508 Humanistic Study of Communications (3)
Prerequisites: Com 410, 500 or concurrent enrollment and classified status. Seminar in humanistic methods of study in communications: historical research and critical analysis applied to problems, issues, and creative works in communication.

509 Seminar in Communication Research (3)
Prerequisites: Com 410, 500 and classified status. Principles of social-scientific research design and analysis applied to the study of communication processes and effects.

510 Advanced Seminar in Communication Research (3)
Prerequisite: Com 508 or 509 and classified status. Problems in theoretical, applied and evaluative research in communication.

512 Graduate Seminar in Journalism Education (3)
Study of selected problems in journalism education with emphasis on individual research.

515 Professional Problems in Specialized Fields (3,3,3)
Prerequisite: Com 500. Selected topics and issues in the fields of (A) advertising and public relations (B) journalism and (C) telecommunications. (May be repeated for credit with different subject matter.)

597 Project (3 or 6)
Completion of a creative project in an emphasis beyond regularly offered coursework.

598 Thesis (3 or 6)
Completion of a thesis in an emphasis beyond regularly offered coursework.

599 Independent Graduate Research (1–3)
Prerequisite: consent of department chair. Individually supervised mass media projects or research for graduate students. May be repeated.

JOURNALISM EDUCATION COURSES

442 Teaching Journalism in the Secondary School (3)
Prerequisite: admission to teacher education. Theory and technique of advising school newspaper and yearbook staffs and teaching journalism. Relation of classroom instruction to staff assignments.

449A,B Journalism Education (12)
Prerequisite: admission to student teaching. Full-time student teaching. **A**—Student teaching in the secondary school. **B**—Seminar.

COMPARATIVE LITERATURE PROGRAM

The program in comparative literature is an interdisciplinary program directed by the Committee on the Program in Comparative Literature. The committee is responsible for formulating curricular policies, approving courses and advising students. The chair of the English Department administers the program, and the courses are taught by faculty from the English Department and other departments whose courses are approved by the committee.

BACHELOR OF ARTS IN COMPARATIVE LITERATURE

The major in comparative literature provides professional competence and personal enrichment for students with an exceptional concern and appreciation for the study of the interrelationships between the languages and literatures of various civilizations. The program offers courses in literary

form and content, theory and philosophy, genres and movements, providing insight into the backgrounds of mankind's worldwide culture and literature. The comparative literature courses are conducted in English and required reading is available in English.

Upper Division Requirements (42 units)

1. Eighteen units selected from courses listed under comparative literature.
2. Reading competence in a foreign language, demonstrated by successfully completing an adviser-approved 400-level course offered by the Department of Foreign Languages and Literatures, provided it is not taught in translation. This requirement can be met through examination. Information on the examination is available in the Department of English office.
3. Six units selected from literature courses listed under English and numbered 300 or above.
4. Six units of anthropology, history, art history, music history or philosophy approved by the adviser and aimed at enlarging total perspective.
5. The remainder of the required 42 units selected from any 300- or 400-level literature course in comparative literature, English, French, German, Italian, Russian or Spanish.

Distribution

1. Of these 42 units, 15 must span the chronological range of the literary continuum, one in each of the following literary periods: Classical or medieval; Renaissance; Neoclassical or Baroque; Romantic; Contemporary (1850–).
2. One course in a literary genre.
3. One course in a major figure.

   It should be noted that (2.) and (3.) can perform the dual function of also satisfying (1.) e.g., a senior seminar in Hugo would satisfy both the major figure *and* the Romantic Period requirements).

More detailed information on the comparative literature major can be obtained from the brochure available in the Department of English office. The importance of close consultation with an adviser cannot be stressed enough for comparative literature, since the diversity of language specialities and other factors may necessitate individual tailoring in any given case.

MASTER OF ARTS IN COMPARATIVE LITERATURE

The objectives of the master's degree program in comparative literature are to promote the understanding of other literatures, peoples, and cultures in various historical periods, including the present, and to prepare the student for more advanced work in comparative literature leading to the Ph.D. degree. The program also prepares teachers of world literature in the high schools and community colleges and provides a liberal arts background preparation for library studies.

Students must meet the university and school requirements (a bachelor's degree from an accredited institution and a minimum GPA of 2.5 in the last 60 semester units attempted) for admission to conditionally classified standing with the declared objective of this degree. Admission to classified standing requires:

1. An undergraduate major in comparative literature, English or foreign language with a GPA of 3.0 or better in the major courses and a GPA of 2.5 in all other college and/or university work. If the student's degree is in another field, he/she must have completed a total of 24 units of upper division work in comparative literature, English, or foreign language, with a GPA of 3.0.

   If the student lacks the prerequisite number of courses, he/she must make them up before he/she can begin work in the master's degree program, and he/she must earn at least a 3.0 in such makeup coursework. In the event that the student's GPA in these probationary courses is 3.0 or better, he/she may be admitted (classified). Courses taken to remove qualitative and quantitative deficiencies may not be applied to the M.A. program.
2. Satisfactory completion of a written examination in an approved foreign language, or satisfactory completion of an upper division course taught in an approved foreign language.
3. Development of an approved study plan.

Study Plan

A minimum of 30 units of coursework must be completed with a minimum GPA of 3.0 to be distributed as follows:

1. A minimum of 18 units in 500-series courses:	*Units*
Courses at the 500-level in comparative literature (one adviser-approved 500-level course in English may help satisfy this requirement)	15

A course at the 500 level in a related area	3
Total	18
2. Upper division courses:	
Adviser-approved courses in comparative literature	6
Adviser-approved courses in a related area	6
(At least 3 units of related coursework must be in foreign literature, read in the original language.)	
Total	12

At the conclusion of his/her coursework, the student will take a comprehensive examination for the master's degree.

Thesis Option

The M.A. candidate in comparative literature may elect to write a thesis. For further information consult the graduate adviser.

For further information, consult the Department of English.

See also "The Program of Master's Degrees" and the *Graduate Bulletin.*

COMPARATIVE LITERATURE COURSES

(Offered by the Department of English)

202 Short Story (3)
(Same as English 202)

257 Writing Haiku (1–3)
(Same as English 257)

305 The Major Prophets of Israel (3)
(Same as Religious Studies 333A)

306 Images of Jesus (1)
A five week examination of the complex personal figure of Jesus Christ as presented in the four gospel portraits. Comparisons of this primary impression with later, secondary images in western literature. Evaluation of this composite Christ figure as influence on western culture.

311 Myths of Creation and Fall (1)
Five weeks intensive study from ethnic groupings round the world, ancient to contemporary. Readings are selected from primary texts in translation, with emphasis on archetypal patterns and themes.

312 The Bible as Literature (3)
A comprehensive survey of Biblical literature emphasizing intrinsic literary qualities as well as the influence of major themes of both Old and New Testament writings upon Western literary traditions.

314 The Oral Tradition in Literature (3)
A study of storytelling as an art, particularly as developed through the media of the folktale. (Same as Library Science 314)

315 Classical Mythology in World Literature (3)
A basic study of those Greek and Roman myths which have been of continuing significance in Western world literature.

316 Celtic Mythology and Early Irish Literature (3)
A survey of early Irish literature and of Irish and Welsh mythological literature, with discussion of comparative and archeological relationships.

317 Indic Mythology (3)
A study of the mythologies embodied in the *Mahabharata,* The *Ramayana,* the *Vedas* and the *Sathapartha Brahamana* of Indian, and in the *Avesta,* and *Sha Namah* of Persia, and their relation to the principal mythologies of Europe.

318 Baltic and Slavic Mythology (3)
A study of the principal myths of the Balts and Slavs and their relationship to the Indo-European inheritance.

319 African Mythology (3)
A study of the principal myths of sub-Saharan Africa, together with their reflections in African art and custom.

320 Greek and Roman Literature (3)
Readings in English translation from the literature of classical Greece and Rome.

321 Germanic Mythology and Saga Literature (3)
A study of Germanic mythology, including comparative myth and archeological relationships, and an introduction to Icelandic saga.

324 World Literature to 1650 (3)
Selected readings in Oriental and western literature from the beginning to 1650.

325 World Literature 1650 to Present (3)
Selected readings in Oriental and western literature from 1650 to the present.

332 Medieval Literature of Western Europe (3)
Selected readings in modern English translation from the medieval literature of England and the continent from St. Augustine to Sir Thomas Malory.

333 Literature of the Renaissance (3)
Major phases of the Renaissance as a literary movement, from Erasmus to Montaigne and Cervantes.

343 The Literature of the Romantic Period (3)
Backgrounds in romanticism and study of major figures of European and American romanticism, such as Pushkin, Rousseau, Leopardi, Goethe, Thoreau, Schiller, Byron and Emily Bronte.

352 African Literature (3)
(Same as English 352 and Afro-Ethnic 352)

355 Images of Women in Literature (3)
(Same as English 355)

360 Irish Literature (3)
Selected writings representative of Irish literature from the early Middle Ages to the present.

373 Masters of Russian Literature (3)
Reading, discussion and interpretation of selected works by Pushkin, Dostoyevsky, Tolstoy, Chekhov, Pasternak and others, and their relationship to western literature.

374 Modern Russian Literature (3)
A study of literary trends and representative works of Russian writers from Maxim Gorky to the present. Special consideration of the Soviet literary theory and its impact upon their literature. Lectures and readings in English.

375 Hispanic Literature (3)
A study of selected translations from Hispanic literature and their relations to world literature. Readings in the picaresque novel, Cervantes, Golden Age Drama, Galdos, Unamuno, Lorca.

376 Main Trends in Spanish-American Literature (3)
An introduction to the main currents of Spanish-American literature, emphasizing contemporary writers, such as Alegria, Asturias, Borges, Fuentes, Neruda. Close attention will be given to the relation between the artistic expression and the ideological values of the same period.

402 Art, Literature, and the Development of Consciousness (3)
An application of theories of consciousness, particularly existential and Jungian, to poems, paintings and musical compositions. Intensive encounters between the individual and the art work; opportunities at checking one's own responses against those of others and exploring the significance of the differences.

403 The Quest for Self: East and West (3)
A comparative study of quest narratives which exemplify the Eastern and Western person's search for self-identity and fulfillment. Religious, psychological and literary texts will be used to help illuminate the comparison.

404 The Nature of Love: Plato to Joyce (3)
An examination of the various dimensions of love as found in notable philosophical, psychological and literary works.

410 Theory and Method of Comparative Literature (3)
Introduction to the theories and methods of comparative literature and the problems of translation.

424 Chinese Literature (3)
A study of selected translations of Chinese literature.

425 Indian Literature (3)
A study of selected works of Indian literature.

426 Japanese Literature (3)
A study of selected translations of Japanese literature.

427 Modern Japanese Fiction (3)
A study of major writers and literary movements in 20th-century Japanese fiction.

450 The Naturalists (3)
A study of naturalism in the works of Turgenev, Balzac, the brothers Goncourt, Maupassant, Zola, Huysmans, Ibsen, Verga; and also the works of Gissing, Moore, Hardy, Garland, Crane, Norris, Dreiser, London and O'Neill.

453 The Novel in France and Germany (3)
Reading, discussion, and interpretation of outstanding novels in translation with a view toward determining some principles of the narrative arts. Emphasis on Goethe, Stendhal, Flaubert, Mann, Kafka, Proust and others.

454 Contemporary Movements in European Literature (3)
A study of modern literary movements, including naturalism, realism, symbolism, expressionism and surrealism, with reading and discussion of selected examples.

457 The Experimental Novel (3)
A study of contemporary novels, including examples of surrealism and the *nouveau roman,* as well as other novels not readily classified.

473 World Drama (3)
Reading, discussion, and interpretation of great plays in translation from the beginning to 1850.

474 World Drama (3)
Reading, discussion, and interpretation of great plays in translation from 1850 to the present.

482 Senior Seminar: Major Writers (3)
Directed research and writing, group discussion, and lectures involving intensive study of major writers. The student should consult his/her adviser and the schedule of classes for the sections available. This course number may be repeated with different content for additional credit.

483 Senior Seminar: Greek Tragedy (3)
Fifth century Greek tragedy through the extant works of Aeschylus and Sophocles, and 10 plays of Euripides. (same as Theatre 491)

491 Senior Seminar: Special Studies in Comparative Literature (3)
Directed research and writing, group discussion, and lectures devoted to significant periods, movements and themes in world literature. May be repeated with different content for additional credit.

499 Independent Study (1–3)

550 Graduate Seminar: Medieval Literature (3)
Directed research and writing, group discussion and lectures, concerning special problems such as the development of medieval narrative, the growth and development of the Arthurian legend, lyric poetry, allegory and devotional literature.

553 Graduate Seminar: Romanticism (3)

571 Graduate Seminar: The Novel (3)
Offers directed research and writing, group discussion, and lectures concerning the genre of the novel. An ability to read the novels in the original language will be helpful. May be repeated with different content for additional credit.

573 Graduate Seminar: Drama (3)

580 Graduate Seminar: Major Figures in World Literature (3)
Directed study and research on a major figure in world literature. Students will write reports and a long paper on approved topics.

591 Seminar in Comparative Literary Criticism (3)

598 Thesis (3)

599 Independent Study (1–3)

CRIMINAL JUSTICE PROGRAM

FACULTY
W. Garrett Capune
Program Coordinator
Beverly Baker-Kelly, Betty Haven, William Hobbs

The program leading to the Bachelor of Arts in Criminal Justice is designed to acquaint preservice

and inservice students with the principles and practices of criminal justice in America. Although the program's curriculum allows for the development of depth in one of the subject's substantive subsystems (i.e., law enforcement, courts or corrections), the overriding objective is to familiarize students with activities in all the above areas.

The program is both academic and professional in that it is an interdisciplinary attempt to relate professional and practitioner perspectives to the challenge of crime in a free society. In this regard, the program provides the student with preparation for employment with a related agency and/or further study.

ADVISEMENT

Students are urged to attend a "New Student's Advisement Session" prior to their first semester at the university as a criminal justice major. This is particularly important for community college transfers. *Failure to do so may delay graduation.**

BACHELOR OF ARTS IN CRIMINAL JUSTICE

Every student must complete the core courses (15 units) and a minimum of 12 units in the concentration curriculum. In addition, each student is required to complete 12 units in a correlated curriculum.

For current information regarding the criminal justice program and its courses, students must consult the program's bulletin board.

Core Curriculum (15 units)

Criminal Justice 300 Criminal Justice in America: An Analysis
Criminal Justice 310A Criminal Law (Substantive)
Criminal Justice 320 Criminal Justice Administration: A Survey
Criminal Justice 330 Crime and Delinquency
Criminal Justice 340 Criminal Justice Research Methodology

Concentration Curriculum (12 units)

Criminal Justice 310B Criminal Law (Procedural)
Criminal Justice 415 The Enforcement Function
Criminal Justice 425 Juvenile Justice Administration
Criminal Justice 435 Adjudication and the Judiciary
Criminal Justice 445A Corrections: Community
Criminal Justice 445B Corrections: Institutions
Criminal Justice 455 Comparative Criminal Justice Systems
Criminal Justice 465 Criminal Justice Planning
Criminal Justice 470 Sex and the Criminal Justice System
Criminal Justice 475 Topics in Administration of Justice: A Seminar
Criminal Justice 480 Courtroom Evidence
Criminal Justice 485 Search, Seizure and Interrogation
Criminal Justice 495 Internship
Criminal Justice 499 Independent Study

Correlated Curriculum (12 units)

Courses for the related fields shall be selected in consultation with the student's adviser. The purpose of this requirement is to allow for the establishment of an emphasis, such as public administration or counseling. Upper-division courses in the following fields can be considered in this regard: accounting, business administration, communications, computer studies, finance, human services, law, management, philosophy, political science, psychology, public administration, quantitative methods, social welfare, sociology, technological studies.

CRIMINAL JUSTICE COURSES

300 Criminal Justice in America: An Analysis (3)

Analysis of the institutions involved in the administration of criminal justice (i.e., law enforcement, courts and corrections), examination of some specific agencies and a review of the system's problems, policies and purposes as they relate to the processes of arrest, adjudication, etc.

* The criminal justice program's "New Student Advisement Sessions" are regularly and frequently scheduled. See the CJ bulletin board for details.

310A Criminal Law: Substantive (3)
The general doctrines of criminal liability in the United States and the classification of crimes as against persons, property and the public welfare. Emphasis will be on the concept of governmental sanction of the conduct of the individual.

310B Criminal Law: Procedural (3)
Legal problems associated with the investigation of crime, the acquisition of evidence, the commencement of a criminal proceeding, the prosecution and defense of charges sentencing and appeal. Principal concern is with the development of existing procedures and examination of current efforts for reform.

320 Criminal Justice Administration: A survey (3)
An analysis of justice administration as a "single system"; a review of modern management materials as applied to the involved institutions; a specific study of line, staff, and auxiliary activities both in principle and practice, and an examination of the associated administrative theories.

330 Crime and Delinquency (3)
The nature and extent of criminality; a review of traditional and topical theories regarding etiology, with a concern for research methods as well as the contribution's content (although physiological causes will be considered, the emphasis will be on the sociological and psychological theories).

340 Criminal Justice Research Methodology (3)
An introduction to elementary statistics including descriptives, measurements and tests; a review of data collection methods for effort evaluation and program prediction; and a survey of systems analysis techniques.

415 The Enforcement Function (3)
Prerequisite: Criminal Justice 300. The historical and philosophical development of the enforcement function as it operates at federal, state and local levels; community controls, political pressures and legal limitations pertaining to law enforcement agencies at each level of government; examination of police policies and problems vis-a-vis the administration of justice as a system.

425 Juvenile Justice Administration (3)
Prerequisite: Criminal Justice 300. Development of our definitions of "delinquency" and the related reponses of the interested institutions (police, courts and correction), with special reference to the juvenile court (past and present), and prevention and correction programs (practicing and proposed).

435 Adjudication and the Judiciary (3)
Prerequisite: Criminal Justice 300. Development of the associated sociolegal doctrine and institutions at the federal, state and local levels; political controls and legal limitations pertaining to each; a study of the nature of the judicial process and an examination of the participants' roles and their relationship to the administration of justice as a system.

445A Corrections: Community Programs (3)
Prerequisite: Criminal Justice 300. The philosophy and practice of community corrections, including: a study of historical antecedents, juvenile and adult probation, parole, diversion practices, private programs, and their interrelation with institutional corrections and the criminal justice system.

445B Corrections: Institution Programs (3)
Prerequisite: Criminal Justice 300. Histories and philosophies of juvenile and adult correctional institutions; analysis of each "total institution" for prisoners and personnel; theory and practice of rehabilitation and alternative attitudes. A review of current research and experimental programs.

455 Comparative Criminal Justice Systems (3)
Prerequisite: Criminal Justice 300. Comparative analysis of criminal justice systems of other states and selected other countries throughout the world. The systems, their theories and associated problems will be examined.

465 Criminal Justice Planning (3)
Prerequisite: Criminal Justice 300. Principles of social planning; sources and uses of criminal, demographic and economic data; examination of existing planning-coordinating agencies, basic research and evaluation techniques including mathematical analysis and model building.

470 Sex and the Criminal Justice System (3)
Prerequisite: Criminal Justice 300. Analysis of rationale for law's concern with sexual conduct, developed via discussion of selected offenses and offenders. Lectures and guest speakers will

also present opposing perspectives regarding the role of law enforcement, courts and corrections. Research and reform will be reviewed.

475 Topics in Administration of Justice: A Seminar (3)

Prerequisite: Criminal Justice 300. An examination of current social, legal and practical problems confronting the police, the courts and corrections as segments within a system concerned with such matters as riots, organized crime, recidivism. A "variable topic" class with specific subjects to be announced each semester.

480 Courtroom Evidence (3)

Prerequisite: Criminal Justice 300. An examination of the rules of evidence in the context of a criminal trial in a California court. A study of the rules, their application and their rationale, through lecture, discussion and simulated courtroom situations.

485 Search, Seizure and Interrogation (3)

Prerequisite: Criminal Justice 300. An examination of the rules of law that apply to searches, seizures and interrogations in California. A study of specifically what the rules are, how they have changed and where they are going.

495 Internships (3)

Prerequisites: Criminal Justice 300 and consent of instructor. Designed to acquaint student with criminal justice professions. Each individual works 8–20 hours per week as a supervised intern in a public agency or related organization. In addition to the job experience, interns meet in a weekly three-hour seminar.

499 Independent Study (1–3)

Prerequisites: at least 12 hours of criminal justice and consent of adviser. Student selects an individual research project, either library or field. Conferences with adviser as necessary, culminating in one or more papers. May be repeated for credit.

DEPARTMENT OF ENGLISH

FACULTY

Joseph Gilde
Department Chair

Don Austin, Arthur Bell, Rosemary Boston, John Brugaletta, Miriam Cox, Sherwood Cummings, George Friend, Cynthia Fuller, Stephen Garber, Joan Greenwood, Ann Haaker, Jean Hall, Mary Hayden, Joseph Hayes, Dennis Hengeveld, Jane Hipolito, Robert Hodges, Michael Holland, Wayne Huebner, Charlotte Hughes, Helen Jaskoski, Dorothea (deFrance) Kenny, Dorothy Kilker, Thomas Klammer, William Koon, Joanne Lynn, Willis McNelly, Russell Miller, Keith Neilson, Priscilla Oaks, Paul Obler, Rita Oleyar, Urania Petalas, June Salz Pollak, Orrington Ramsay, Sally Romotsky, William Rubinstein, Joseph Sawicki, Muriel Schulz, John Schwarz, Alice Scoufos, Donald Sears, Howard Seller, Som Sharma, George Spangler, Alexander Stupple, Irene Thomas, Elena Tumas, Martha Vogeler, M. John Wagner, John White, Helen Yanko

The English Department offers courses designed to acquaint the student with the nature and development of our language, with the literatures of England and America, and with the disciplines involved in the various kinds of writing. Except for freshmen English offerings, courses in world literature in English translation are listed separately, under Comparative Literature. In addition the Department of English offers some specialized professional courses for the preparation of teachers. On the senior and graduate levels, various opportunities are provided for seminar work and independent study.

The English Department offers a flexible program, designed to reflect various approaches to the study of language and literature. In planning a program to fit their particular interests, *all students* are urged to consult one of the two English Department undergraduate advisers or another faculty member.

BACHELOR OF ARTS IN ENGLISH

Requirements: 42 units in addition to English 100 or 103, or their equivalents.

Lower Division (maximum of 12 units)

Any 200 level course.

Upper Division (minimum of 30 units)

Required courses (9 units)

English 300 Analysis of Literary Forms (3)
English 301 Advanced Composition (3)
English 334 Shakespeare (3)

Survey courses (minimum of 6 units), selected from among the following:

English 311 Masters of British Literature to 1760 (3)

English 312 Masters of British Literature from 1760 (3)
English 321 American Literature to Whitman (3)
English 322 American Literature from Twain to the Moderns (3)
Comp Lit 324 World Literature to 1650 (3)
Comp Lit 325 World Literature from 1650 (3)

Period, Genre and Criticism courses (9 units—at least 3 units from courses prior to 1800, i.e., 332, 335, 336, 337, 338, 339, 340, 345, 423), selected from among the following:

English 332 Medieval English Literature (3)
English 335 Elizabethan and Jacobean Drama (3)
English 336 Elizabethan Poetry and Prose (3)
English 337 17th-Century Poetry and Prose (3)
English 338 The Drama of the Restoration and the 18th-Century (3)
English 339 Restoration Literature (1660–1700) (3)
English 340 18th-Century Poetry and Prose (3)
English 345 The Development of the English Novel Through Jane Austen (3)
English 423 Early American Literature (3)
English 343 The Romantic Movement in English Literature (3)
English 344 Victorian Literature (3)
English 346 The Development of the 19th-Century English Novel (3)
English 445 The American Tradition in Poetry (3)
English 446 The American Novel to 1914 (3)
English 462 Modern British and American Novels (3)
English 463 Contemporary British and American Novels (3)
English 464 Modern British and American Drama (3)
English 465 Contemporary British and American Drama (3)
English 466 Modern British and American Poetry (3)
English 467 Contemporary British and American Poetry (3)
English 391 Traditions of English Literary Criticism (3)

Major author courses (Shakespeare—English 334—*plus* 3 units)

English 333 Chaucer (3) *or*
English 341 Milton (3)

Language courses (minimum of 3 units), selected from among the following:

English 302 Introduction to the English Language (3)
English 303 Structure of Modern English (3)
English 305 American Dialects (3)
English 490 History of the English Language (3)

Electives to complete a minimum of 42 units shall be selected from additional courses in language and composition, period courses, literary criticism, senior seminars and comparative literature. Comparative literature offerings are listed separately but count toward an English major.

Students are urged to consult one of the English Department undergrduate advisers or another faculty member when choosing electives or when seeking evaluation of work completed at other institutions.

English majors who intend to pursue graduate study are urged to acquire proficiency in at least one foreign language, and most graduate programs in English assume that the student has had a broad background in the study of major literary figures, periods and critical approaches, as well as some training in English language and linguistics. Both breadth and depth of preparation are important.

Students seeking a secondary teaching credential must complete the following:

English 301 Advanced Composition; and
English 302 Introduction to the English Language *or*
English 303 Structure of Modern English

The following courses are required for the credential, but do not count toward the 42 units of major:

English Education 442 Teaching English in the Secondary School
English Education 449 Student Teaching in English in the Secondary School and Seminar (Ryan Credential)

MINOR IN ENGLISH

Requirements: a total of 21 units

A minimum of 15 units described below and 6 units of electives. In choosing their electives, students seeking a minor in English should consult one of the two English Department undergraduate advisers or another faculty member.

Required courses (9 units)

English 300 Analysis of Literary Forms (3)
English 301 Advanced Composition (3)
English 334 Shakespeare (3)

Survey courses (minimum of 6 units), selected from among the following:

English 311 Masters of British Literature to 1760 (3)
English 312 Masters of British Literature from 1760 (3)
English 321 American Literature to Whitman (3)
English 322 American Literature from Twain to the Moderns (3)
Comp Lit 324 World Literature to 1650 (3)
Comp Lit 325 World Literature from 1650 (3)

Electives

Six (6) units drawn from additional English Department courses.

MASTER OF ARTS IN ENGLISH

The Master of Arts in English is designed to give the student a fuller understanding of English and American literature and language. The degree is useful to those teaching in high schools or community colleges, to those seeking careers in writing and publishing, and to those intending to take further graduate work.

Students must meet the university and school requirements (a bachelor's degree from an accredited institution and a minimum GPA of 2.5 in the last 60 semester units attempted) for admission to conditionally classified standing with the declared objective of this degree.

To qualify for classified graduate standing in the program for the Master of Arts in English, a student must hold a bachelor's degree in English from an accredited institution at which he/she has maintained at least 3.0 grade-point average in the major courses *provided that he/she has a minimum of 24 units of upper-division coursework;* or if the student holds a bachelor's degree in another major, he/she must have completed 24 units of upper-division coursework in English with at least a 3.0 grade-point average. If the student lacks the prerequisite number of English courses, he/she must make them up before he/she may begin work in the master's degree program, earning at least a 3.0 in such makeup coursework. In the event that the student's GPA in prerequisite English courses is less than 3.0, he/she may be allowed to take from six to nine units of probationary, adviser-approved coursework. If the student's GPA in these probationary courses is 3.0 or better, he/she may be admitted (classified). Courses taken to remove qualitative and quantitative deficiencies may not be applied to the M.A. program.

A student is required to have two years of one foreign language at the college or university level or six units of study in comparative literature. If taken as graduate work, these six units may be applied to the master's degree under "units in subjects related to English."

A study plan must be developed and approved for admission to classified graduate standing.

Study Plan:	*Units*
Minimum units in English courses restricted to graduate students (500 series) ..... (with the permission of the graduate adviser, 3 of these 18 units may be taken in a comparative literature graduate seminar)	18
Units in specified upper-division courses in English	6–12
Maximum units in subjects related to English	6
Total units required	30

At the conclusion of the student's program he/she will take the written comprehensive examination for the master's degree. A student who fails the examination may retake the failed parts only once.

Note: The student is strongly advised to take the steps necessary for admission to the program before registering for his/her first graduate courses. Part of the admission process is to confer with the graduate adviser, who will analyze prerequisites and designate those courses which will apply to the degree program. Courses taken by a conditionally classified student do not necessarily apply toward a degree. At the time the student achieves classified standing, no more than nine units of

postgraduate coursework may be applied to the master's degree program.

For further information, consult the Department of English.

See also "The Program of Master's Degrees" and the *Graduate Bulletin.*

ENGLISH COURSES

For world literature in English translation see courses under comparative literature.

100 Composition (3)

A basic course in composition in which students practice the writing of expository prose. The course carries no credit toward the major.

103 Seminar in Writing (3)

A course in expository writing for the student with some proficiency in composition. In each section readings and essays will be thematically related. The course carries no credit toward the major.

105 Introduction to Creative Writing (3)

An exploratory creative writing course in which the student is given the opportunity to write in various genres. The course carries no credit toward the major.

110 Literature of the Western World from Ancient through Medieval Times (3)

The study of representative writers and works from the ancient through the medieval world.

111 Literature of the Western World from the Renaissance through the 19th Century (3)

The study of representative writers and works from the Renaissance through the 19th century.

112 Modern Literature of the Western World (3)

The study of representative writers and works of modern literature.

115A The Western Tradition: Literature (3)

One component of a set of courses providing an integrated study of the major developments in the heritage of Western Civilization from the Ancient Near East to Renaissance Europe. Concurrent enrollment in History 115A and Philosophy 115A is required.

115B The Western Tradition: Literature (3)

One component of a set of courses providing an integrated study of the major developments in the heritage of Western Civilization from the Renaissance to the 20th century. Concurrent enrollment in Philosophy 115B and History 115B is required.

202 The Short Story (3)

A course designed to introduce the student to the study of the structure and technique of the short story. Emphasis on critical analysis of selected American and European short stories. (Same as Comparative Literature 202)

205 Introduction to Drama (3)

A course designed to introduce the student to the study of dramatic literature. Emphasis on close analysis of individual plays.

206 Introduction to Poetry (3)

A course designed to increase student's understanding and appreciation of the art of poetry. The primary activity will be close reading of poems written in English.

210 Studies in Literature (3)

Selected readings and discussion of English and American writers emphasizing a particular theme, genre, trend or the works of individual writers. Section topics will vary according to special interests of instructor.

252 Linguistics and Literature (3)

(Same as Linguistics 252)

257 Writing *Haiku* (1–3)

After a brief study of the development of *haiku* in Japan, students will write and revise *haiku* in English and share them with the class. With consent of instructor, may be repeated for no more than three units of credit. (Same as Comparative Literature 257)

300 Analysis of Literary Forms (3)

The main literary forms—prose fiction, poetry and drama—are studied and analyzed. Various critical methods are applied to representative works mainly from English and American literature. English majors should schedule this basic course as early in their program as possible.

301 Advanced Composition (3)

Prerequisites: English 100, 103, or their equivalents. Exercises in creativity, analysis, and rhetoric as applied in expository writing. Required of English majors seeking the secondary credential.

302 Introduction to the English Language (3)
A basic course in language emphasizing the history, structure and dialects of American English in its social, cultural and educational contexts. This course or English 303 required of English majors seeking a secondary credential and must be taken before student teaching.

303 The Structure of Modern English (3)
Prerequisite: junior standing. The grammar of contemporary English. Modern English usage. This course or English 302 required of English majors seeking a secondary credential and must be taken before student teaching.

305 American Dialects (3)
An examination of the principles of dialectology. Emphasis on the description of modern American dialects and their role in social, cultural and educational issues of today. (Same as Linguistics 305)

311 Masters of British Literature (3)
Prerequisite: sophomore standing or consent of instructor. An introduction to major periods and movements, major authors and major forms through 1760.

312 Masters of British Literature (3)
Prerequisite: sophomore standing or consent of instructor. An introduction to major periods and movements, major authors and major forms from 1760 through modern times.

320 Literature of the American Indian (3)
A study of the prose and poetry of the American Indian, focusing on the literatures of the North American tribes.

321 American Literature to Whitman (3)
Emphasis on major writers such as Hawthorne, Poe, Melville, Emerson, Thoreau, Whitman, Dickinson.

322 American Literature from Twain to the Moderns (3)
Emphasis on major writers such as Twain, James, Crane, Hemingway, Faulkner, O'Neill, Frost, Eliot.

325 American Ballad and Folksong (3)
A survey of Anglo-American balladry and folksong, with attention to historical development, ethnic background and poetical values.

326 The American Frontier in Literature (3)
Prerequisite: any courses in American literature, American studies or American history. The moving American frontier from the beginnings to the close of the 19th century. Accounts of explorers and naturalists will be examined beside artistic, literary and popular treatments to identify the myths and symbols created by the fact of a frontier in American life.

332 Medieval English Literature (3)
An introduction to the literature of medieval England exclusive of Chaucer. Readings in modern English versions of representative major works and genres from *Beowulf* to Malory.

333 Chaucer (3)
A study of *The Canterbury Tales* and of Chaucer's language, with particular emphasis upon the understanding of the vocabulary, pronunciation, grammar, and syntax of the East Midland dialect of Middle English, as indispensable to literary appreciation.

334 Shakespeare (3)
An introduction to Shakespeare's art through a detailed study of the more famous plays.

335 Elizabethan and Jacobean Drama (3)
Emphasis on the development of the dramatic tradition in plays by such dramatists as Marlowe, Jonson, Webster, Beaumont and Fletcher.

336 Elizabethan Poetry and Prose (3)
A study of the nondramatic literature of the English Renaissance. Emphasis on Renaissance thought and the works of Spenser.

337 17th-Century Poetry and Prose (3)
A survey of nondramatic literature of the period from 1603 to 1660 exclusive of Milton. Emphasis on major writers such as Bacon, Donne, Jonson, Herbert, Marvell; selected minor writers.

338 The Drama of the Restoration and the 18th Century (3)
A study of representative plays of the Restoration and the 18th century. Emphasis will be placed on the development of such dramatic movements as the heroic play, Restoration comedy and sentimental drama.

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339 Restoration Literature (1660–1770) (3)
Emphasis on major writers such as Butler, Rochester, Dryden, Pepys; selected minor writers.

340 18th-Century Poetry and Prose (3)
Emphasis on major writers such as Swift, Addison and Steele, Pope, Boswell, Johnson; selected minor writers.

341 Milton (3)
An intensive study of the poetry and prose in the light of Milton's intellectual development.

343 The Romantic Movement in English Literature (3)
Emphasis on major writers such as Burns, Blake, Wordsworth, Coleridge, Byron, Shelley, and Keats.

344 Victorian Literature (3)
Emphasis on major writers such as Carlyle, Tennyson, Browning, Arnold, Ruskin, Pater.

345 The Development of the English Novel through Jane Austen (3)
A study of the English novel from its beginnings to the 19th century considering such novelists as Defoe, Richardson, Fielding, Sterne and Austen.

346 The Development of the 19th-Century English Novel (3)
A study of such novelists as the Brontës, Thackeray, Dickens, Eliot and Hardy.

349 Fantasy Fiction (3)
Readings of selected authors from Ariosto to Brautigan, exploring the importance of fantasy in literature and in self-understanding.

350 Detective Fiction (3)
A study of detective fiction from Edgar Allan Poe to the present, including writers such as Sayers, Christie, Chandler, Hammet and Ross Macdonald.

351 Science Fiction (3)
The study of science fiction as a literary genre, including future-scene fiction, the utopian novel, the superman/woman novel and short stories.

352 African Literature (3)
African literature written in the English language, with special emphasis on the fiction, poetry and drama of the new nations. (Same as Comparative Literature 352 and Afro-Ethnic Studies 352)

353 Black Writers in America (3)
Analysis of examples from various genres, including oral literature.

355 Images of Women in Literature (3)
Images of women in various genres, such as autobiography, poetry, drama and the novel. A conventional literary period (Victorian, Modern, etc.) and specific cultures (Great Britain or the United States, etc.) at the discretion of instructor. (Same as Comparative Literature 355)

364 Seminar in Writing (3)
Prerequisites: evidence of student's previous interest in creative writing and consent of instructor. Study of superior models, development of style, and group criticism and evaluation of each student's independent work. May be repeated for credit. (Same as Theatre 364)

365 Legal Writing (3)
An advanced composition course with am emphasis on logic, reasoning, and legal analysis.

375 Literature and Film (3)
Critical study of works of literature and the films adapted from them. Literature/film adaptation theories, critical theory and terminology, and the comparative nature of the two media will be considered.

391 Traditions of English Literary Criticism (3)
The principal statements of the major English critics, from the Renaissance to the beginning of the 20th century, studied in their relationship to the classical theories of criticism.

392 Modern Literary Criticism (3)
A study of the major movements in 20th-century British and American criticism.

421 Minority Images in American Literature (3)
An examination of 19th- and 20th-century literature written by and about racial groups in America including such works as *Uncle Tom's Cabin* and *Soul on Ice.*

423 Early American Literature (3)
Prerequisite: English 321 or consent of instructor. The literature of colonial and revolutionary America, including the Puritans, 18th-Century deism and rationalism and the literary antecedents of American democratic thought.

425 Darwinism in American Literature (3)
Prerequisites: junior standing and consent of instructor. An examination of selected writings of Darwin and of such Darwinians as Spencer and Huxley; then a study of the literary adaptations and assimilations of Darwinism. (Same as American Studies 425)

433 Children's Literature (3)
Reading and discussion of works from world literature designed primarily for children, including material from the oral tradition, realistic fiction, fantasy and poetry. Designed for the general student as well as for elementary credential candidates.

434 Adolescent Literature (3)
The evaluation, selection, and interpretation of fiction, nonfiction, drama, and poetry reflecting the broad range of interest of young people from 12 to 17 years of age. Designed for the general student, as well as candidates for the library services or secondary teaching credential.

435 Studies in Shakespeare (3)
Prerequisite: English 334 or consent of instructor. An intensive study of selected plays with primary emphasis upon problems of dramatic structure and artistic meanings.

445 The American Tradition in Poetry (3)
A study of selected American poems from the 17th century to 1914. Emphasis on the close reading of individual poems.

446 The American Novel to 1914 (3)
A study of selected American novelists from Cooper to Dreiser.

451 Philosophical Backgrounds of Modern Literature (3)
The connection between representative writers and such thinkers and philosophers as Freud, Spengler, Schopenhauer, Nietzsche and Kierkegaard.

462 Modern British and American Novels (3)
Prerequisite: survey of English, American or world literature; an upper division literature course; or consent of instructor. Development of modern British and American novels from 1900 to 1950.

463 Contemporary British and American Novels (3)
The novel in English since World War II.

464 Modern British and American Drama (3)
Prerequisite: survey of English, American or world literature; an upper division literature course; or consent of instructor. The development of British and American drama from 1900 to 1950.

465 Contemporary British and American Drama (3)
British and American drama from 1950 to the present.

466 Modern British and American Poetry (3)
Prerequisite: survey of English, American or world literature; an upper division literature course; or consent of instructor. The development of British and American poetry from 1900 to 1950.

467 Contemporary British and American Poetry (3)
British and American poetry from 1950 to the present.

480 Seminar in Old English (3)
Study of the elements of Old English language, and cultural backgrounds with critical reading of lyrics and short prose pieces.

490 History of the English Language (3)
Prerequisite: senior or graduate standing. The historical development of English vocabulary, phonology, morphology and syntax from Indo-European to modern American English.

491 Senior Seminar (3)
Prerequisite: an undergraduate course in the area to be studied, a B average or better in English courses, or consent of instructor. Directed research and writing, group discussion, and lectures covering selected topics from language studies, intensive studies of major writers, criticism, and literary types, periods, and ideological trends.

499 Independent Study (3)
Open to advanced students in English with consent of department chair. May be repeated for credit.

570 Graduate Seminar: Language Studies (3)
Directed research and writing, group discussion, and lectures covering philology, historical development, and structure of English. Individual offerings under this course number may deal with only one aspect of language studies. May be repeated with different content for additional credit.

571 Graduate Seminar: Major Writers (3)
As appropriate to the specialized research and publication of instructor, this course will offer directed research and writing, group discussion, and lectures covering major figures such as Shakespeare,

Milton, Chaucer, Melville, Twain, Hawthorne, Joyce and Coleridge. May be repeated with different content for additional credit. (Same as Theatre 571)

572 Graduate Seminar: Literary Genres (3)
As appropriate to the specialized research and publication of instructor, this course will offer directed research and writing, group discussion and lectures, covering such major literary types as the epic, the novel, the short story, lyric poetry, tragedy, comedy and historical drama. May be repeated with different content for additional credit. (Same as Theatre 572)

573 Graduate Seminar: Cultural Periods (3)
As appropriate to the specialized research and publication of instructor, this course will offer directed research and writing, group discussion, and lectures covering the literature of a particular cultural period from the Anglo-Saxon to modern times. May be repeated with different content for additional credit.

574 Graduate Seminar: Special Problems in Literature (3)
As appropriate to the specialized research and publication of the instructor, this course will offer directed research and writing, group discussion and lectures covering special problems such as the detailed critical study of varying influences on literature, including philosophical, religious, scientific, geographic and other ecological viewpoints. May be repeated with different content for additional credit.

575 Graduate Seminar: Topics in High School Teaching (3)
Specific topics will vary from semester to semester.

579 Graduate Seminar: Problems in Criticism (3)
Directed research and writing, group discussion, and lectures covering historical development and schools of criticism. Individual offerings within this course number may deal with only one aspect of critical problems. May be repeated with different content for additional credit.

599 Independent Graduate Research (3)
Research projects in areas of specialization beyond regularly offered coursework. Oral and written reports. May be repeated with different content for additional credit.

ENGLISH EDUCATION COURSES

442 Teaching English in the Secondary School (3)
Prerequisite: admission to teacher education. Principles, methods and materials of teaching English in the secondary school.

449A English Education (10)
Student Teaching in the Secondary School. The candidate, in the field for four and one-half days each week, has the same instructional hours of responsibility as the master teacher.

449B English Education (2)
One afternoon a week the candidate partcipates in a seminar with the university supervisor.

DEPARTMENT OF FOREIGN LANGUAGES AND LITERATURES

FACULTY
Leon Gilbert
Department Chair

Linda Andersen-Bensimon, Oswaldo Arana, Nancy Baden, Gerald Boarino, Daniel Brondi, Samuel Cartledge, Modesto Díaz, Ronald Harmon, Arturo Jasso, Jacqueline Kiraithe, Walter Kline, G. Bording Mathieu, Harvey Mayer, Doris Merrifield, Ervie Peña, Marcial Prado, Charles Shapley, Curtis Swanson, Marjorie Tussing, Eva Van Ginneken, Stephen Vasari, Jon Zimmermann

BACHELOR OF ARTS IN FRENCH, GERMAN OR SPANISH

Several options are offered:

1. *French major.* Requirements: French 101, 102, 203, 204, 230, 240, or their equivalents; plus a minimum of 27 units of upper division courses including 315, 317, 325, 375, 415, 425 and six units of 475 A,B,C,D.
2. *German major.* Requirements: German 101, 102, 203, 204, 213, 214, or their equivalents; plus 24 units of upper division coursework, which must include 315, 317, 375 and three of the following literature courses: 430, 440, 450, 460

3. *Spanish major:* Lower division requirements: Spanish 101, 102, 203, 204, 213, 214, or their equivalents. Upper division requirements for:
   A. Standard major: Spanish 315, 316, 317 or 318, 375; plus 15 units of upper division Spanish which must include 430, 441 and 461.
   B. Bilingual emphasis major: Spanish 315 or 316, 317 or 318, 375, 400 (or its equivalent), 466, 467, 468, plus two additional courses in Spanish at the 400 level, to be taken in consultation with the adviser.

PLACEMENT: Students may enroll at any point in the sequence of courses for which their previous study and/or experience prepares them. Students with no language background should enroll in fundamental 101-level courses. Normally, two years of high school language study are counted as one year of college language. Students just completing two years of high school language should probably begin at 200-level intermediate courses. A minimum of four years of high school language, or its equivalent, is considered a prerequisite for more advanced 300-level major work. Due to the sequential nature of language instruction, consultation with an adviser in the Department of Foreign Languages and Literatures is strongly recommended before enrolling.

TRANSFER STUDENTS

In accordance with university rules, all transfer students must complete 24 units in residence at Cal State Fullerton. Of these 24 units, the transfer student majoring in French, German or Spanish is required to complete 12 upper division units, i.e., 300, 400 or 500 level courses, in the major on the Cal State Fullerton campus. The specific courses will be determined in consultation with the student's adviser and approved by the chair.

MINOR IN A FOREIGN LANGUAGE

Requirements: Courses 101, 102, 203, 204, 213, 214 or their equivalents, completed satisfactorily; plus nine units in upper division courses selected in consultation with the adviser. Minor concentrations are offered in French, German, Portuguese, Russian and Spanish.

STANDARD TEACHING CREDENTIAL, SPECIALIZATION IN SECONDARY EDUCATION

All prospective teachers, before being admitted to a credential program, must pass a proficiency examination in which their skills of listening, speaking, reading, writing and knowledge of linguistic principles will be tested. Students should make arrangements with the department to take the test during their junior year.

MULTIPLE SUBJECT CREDENTIAL WAIVER FOR FOREIGN LANGUAGE MAJORS

The State Commission for Teacher Preparation and Licensing has approved the department's foreign language majors for the Multiple Subject Credential option of the Teacher Preparation and Licensing Law of 1970 (Ryan Act). For further information consult the Department of Foreign Languages and Literatures.

INTERNATIONAL PROGRAMS

In accordance with recommendations made by the Modern Language Association of America, the Department of Foreign Languages and Literatures encourages all majors interested in a teaching career to participate in a study-abroad program. This will enable a student to perfect his mastery of the language and afford him additional insights into the foreign culture. To this end The California State University and Colleges' International Programs offer a wide variety of study opportunities on the junior, senior and graduate level.

While the department encourages students to study overseas to provide an "externship" in language and culture, language majors are required to complete the following minimum of courses on campus before departure for, or upon return from, overseas:

A. for the B.A.: 12 units of upper division courses consisting of a minimum of nine units at the 400 level in the major
B. for the M.A.: 15 units consisting of a minimum of 12 units at the 500 level in the area of specialization.

THE LANGUAGE LABORATORY

Students enrolling in courses 101, 102, 203, 204 are required, in addition to the regular class periods, to practice for the minimum of prescribed time in the language laboratory. The 36-station laboratory operates like a library; students may use it at a time most convenient to them preferably every day in sessions of 15 to 30 minutes. Further details will be announced by each instructor and by the supervisor of the language laboratory.

Students are invited to make use of the collection of literary and cultural recordings in French, German, Portuguese, Russian and Spanish available in the language laboratory.

MASTER OF ARTS IN FRENCH, GERMAN OR SPANISH

An applicant must meet the university requirements for admission to conditionally classified graduate standing: a baccalaureate degree from an accredited institution and a grade-point average of at least 2.5 in the last 60 semester units attempted (see section of this catalog on admission of graduates for complete statement and procedures).

A student who meets the requirements for conditionally classified graduate standing, as well as the following requirements may be admitted as a classified graduate upon the development of an approved study plan: a major in French, German or Spanish (as appropriate) consisting of 24 units (or equivalent) of upper-division studies with above-average scholarship. (A candidate presenting a B.A. which has fewer than 24 upper division units in the major language, or is otherwise inadequate, normally will be required to take additional courses to build a full undergraduate major before beginning the graduate program. The student must also demonstrate proficiency in English, either by examination or a three-unit upper division course in English grammar.

The degrees of Master of Arts in French, German and Spanish require a minimum of 30 semester units beyond the bachelor's degree including a minimum of 15 units in 500-level courses.

The basic study plans are as follows:

FRENCH

A. Core courses (6 units)
   French 500 (Graduate Seminar: Advanced Structure and Style) or substitute
   French 510 (Graduate Seminar: Phonology), 520 (Old French) or 530 (Graduate Seminar: Historical Linguistics)
B. Graduate seminars in literature (9 units)
C. Other electives (15 units)

May be chosen from either 400- or 500-level French courses. A maximum of six units may be taken, with approval of the adviser, in a related field.

With the approval of his graduate committee, a student may elect to substitute a thesis for a part of the units required in Section C.

A bibliographic project is to be completed prior to classification. A reading project is to be completed prior to advancement to candidacy. A reading list must be covered by all students. Final evaluation is by a comprehensive written and oral examination, including fluency in the French language.

GERMAN

A. Core courses (6 units)
   German 466 (Introduction to German Linguistics) or 530 (Graduate Seminar: Historical Linguistics)
   German 500 (Graduate Seminar: Advanced Structure and Style) or substitute
B. Graduate seminars in literature (9-12 units)
C. Other electives (12-15 units)

May be chosen from either 400- or 500-level German courses. A maximum of six units may be taken, with approval of the student's graduate committee, in a related field.

With the approval of his graduate committee, a student may elect to substitute a thesis for a part of the units required in Section C. A reading list must be covered by all students. Final evaluation is by a comprehensive written and oral examination, including fluency in the German language.

SPANISH: STANDARD M.A.

A. Core courses (6 units)
   Spanish 500 (Graduate Seminar: Advanced Structure and Style) or substitute.
   Spanish 530 (Graduate Seminar: Historical Linguistics)
B. Graduate seminars in literature (Peninsular and Spanish American must be included) (9 units)
C. Other electives (15 units)

May be chosen from either 400- or 500-level Spanish courses. Up to six units may be taken, with approval of the adviser, in a related field.

SPANISH M.A.: BILINGUAL STUDIES EMPHASIS

A. Core courses (6 units)
   Spanish 500 (Graduate Seminar: Advanced Structure and Style) or substitute
   Spanish 525 (Graduate Seminar: Research in Bilingual Language Acquisition (Spanish-English)

B. Graduate seminars (9 units)
   Any 500-level course in Peninsular literature
   Any 500-level course in Spanish American literature
   Any 500-level culture course
C. Electives (15 units; 3 may be in approved related fields)
   Linguistics
   Literature
   Culture
   Other

With the approval of his graduate committee, a student may elect to substitute a thesis for a part of the units required in Section C. A reading list must be covered by all students. Final evaluation is by a comprehensive written and oral examination, including fluency in the Spanish language.

The candidate for the M.A. degree must consult a graduate adviser before beginning his program. Before being advanced to candidacy for the degree, he must demonstrate proficiency in the language to a faculty committee appointed for that purpose.

For further information, consult the Department of Foreign Languages and Literatures.

See also "The Program of Master's Degrees" in this catalog and the *Graduate Bulletin.*

FOREIGN LANGUAGES COURSES

100 Introduction to Foreign Languages and Cultures (3)
Introduction to cultures and languages of other peoples by examining their ethnic origins, customs and linguistic traits. The course will deal with more than one language and culture.

196 Student-to-Student Tutorials (1–3)
See page 88.

198 Programmed Courses in Uncommonly Taught Languages (1–3)
Intensive individualized programmed instruction in specific languages other than those regularly offered by the Department of Foreign Languages and Literatures, such as Turkish. Designed to develop the skills of auditory comprehension and speaking in the language to form a basis for later development of the reading and writing skills. A minimum of 3 hours per week in the learning laboratory as well as regular sessions with native informants, are required for each unit of credit. May be repeated for credit.

496 Student-to-Student Tutorials (1–3)
See page 88.

FOREIGN LANGUAGES EDUCATION COURSES

105A,B English as a Second Language (4)
A course in English for non-native speakers. Intensive practice in listening comprehension, speaking, reading and writing to improve control of the basic sounds and structures of English. Language laboratory assignments are included.

442 Teaching Foreign Languages in the Secondary School (3)
Prerequisites: French, German or Spanish 466; and admission to teacher education or consent of instructor. The theory and practice of language learning and language teaching with special emphasis on the audiolingual method. Conducted in English, with practice by students in the language they plan to teach. Required before student teaching. (2 hours lecture, plus fieldwork)

443 Principles of Teaching English to Speakers of Other Languages (3)
Prerequisite: junior standing or above. New and recent trends, including the expanded use of electromechanical aids, programmed instruction, problems of bilingualism, and selected problems in the psychological and linguistic foundations of modern teaching of English to speakers of other languages.

449A Teaching Foreign Languages in the Secondary School (10)
See description under Division of Teacher Education.

449B Student Teaching Seminar (2)
See description under Division of Teacher Education.

450 Spanish Classroom Vocabulary (2)
Prerequisite: Spanish 317 or 318 or equivalent, or consent of instructor. For the teacher or potential teacher in bilingual classroom situations. Provides practice in Spanish classroom vocabulary at the primary and secondary levels.

545G German Culture in the Language Classroom (2)
Prerequisite: German 315 or consent of instructor. A thorough review of the geography, social organization, political structure, contemporary patterns of culture and value systems of German speaking lands. Emphasis on the resources and techniques available to the teacher of German.

ARABIC COURSES

101 Fundamental Arabic-A (4)
Intensive practice in listening comprehension, speaking, reading and writing to develop control of the sounds and the basic forms and structures of modern standard Arabic.

102 Fundamental Arabic-B (4)
Prerequisite: Arabic 101 or equivalent. Intensive practice in listening comprehension, speaking, reading and writing to develop control of the sounds and the basic forms and structures of modern standard Arabic.

299 Directed Study (1–3)
Prerequisite: Arabic 102 or equivalent. Supervised study projects in Arabic language or literature to be taken with consent of instructor and department chair. May be repeated for credit.

CHINESE COURSES

101 Fundamental Chinese—A (4)
Practice in listening comprehension, speaking, reading and writing to develop control of the sounds and the basic structure of Chinese. Audiolingual assignments will be prepared in the language laboratory. Conducted in Chinese.

102 Fundamental Chinese—B (4)
Prerequisite: Chinese 101 or equivalent. Practice in listening-comprehension, speaking, reading and writing to develop control of the sounds and the basic forms and structure of Chinese. Audiolingual assignments will be prepared in the language laboratory. Conducted in Chinese.

299 Directed Study (1–3)
Prerequisite: Chinese 102 or equivalent. Supervised study projects in Chinese language or literature to be taken with consent of instructor and department chair. May be repeated for credit.

FRENCH COURSES

101 Fundamental French—A (5)
Intensive practice in listening comprehension, speaking, reading and writing to develop control of the sounds and the basic forms and structure of French. Audiolingual assignments in the language laboratory are an integral part of the course. Conducted in French.

102 Fundamental French—B (5)
Prerequisite: French 101 or equivalent. Practice in listening comprehension, speaking, reading and writing to develop control of the sounds and basic structure of French. Assignments in the language laboratory are an integral part of the course. Conducted in French.

203 Intermediate French—A (3)
Prerequisite: French 102 or equivalent. Intensive practice in speaking, understanding, reading, and writing based on cultural and literary materials. Linguistic analysis from sound to sentence. Conducted in French.

204 Intermediate French—B (3)
Prerequisite: French 203 or equivalent. Intensive practice in speaking, understanding, reading and writing based on cultural and literary materials. Linguistic analysis from sound to sentence. Conducted in French.

230 Intermediate Diction and Phonetics (2)
Practice in oral delivery of cultural and literary materials. Detailed analysis of individual problems

in pronunciation followed by intensive work in class and the language laboratory. May be taken concurrently with French 203. Conducted in French.

240 Intermediate Composition (2)

Practice in written expression based on cultural and literary materials. May be taken concurrently with French 204. Conducted in French.

300 French Conversation (3)

Prerequisite: French 204 or equivalent. Designed to enable the student to develop further his oral control of the language in the context of his own or contemporary concerns. Conducted in French.

315 Origins of Modern France (3)

Prerequisite: French 204 or equivalent. The social, intellectual and artistic origins of French civilization: feudal society becoming the *ancien regime;* the medieval world-view transformed by the Renaissance. Literary selections will be read in modern French translation. Conducted in French.

317 Advanced Composition and Grammar (3)

Prerequisite: French 204 or equivalent. Emphasis on free oral and written expression. Conducted in French.

318 Advanced Composition and Grammar (3)

Prerequisite: French 317 or equivalent. Designed to give the student special competence in the control of French as an instrument for free oral and written expression. Conducted in French.

325 Contemporary French Civilization (3)

Prerequisite: French 204 or equivalent. Reading and discussion to develop understanding of the social and intellectual problems, trends, and contributions of present-day France, while at the same time strengthening facility with the language. Conducted in French.

375 Introduction to Literature (3)

Prerequisite: French 204 or equivalent. Examination of what is known about the nature of human language, the literary use of language, literary creation, reading, and what critics are able to say about literary works. Reading and discussion of some typical, mainly contemporary, texts. Conducted in French.

390 Oral Interpretation of French Dramatic Literature (3) (Formerly 490)

Prerequisite: French 317 or consent of instructor. Group and individual reading of selected dramatic works to develop oral and interpretative skills. Conducted in French.

399 Advanced French Phonetics (2)

Prerequisite: French 230 or consent of instructor. Analysis of students' specific problems in pronunciation, followed by work in class and the language laboratory until articulatory proficiency is achieved.

415 French Classicism (3)

Prerequisite: French 305 and 317. The decisive moment in French experience. Focus on literature of the Classic period (1660–1685), but open to both ends to include the formation and perenniality of French Classicism. Conducted in French.

425 French Romanticism (3)

Prerequisites: French 305 and 317. The revolution in feeling and intellect in 19th-century France. Emphasis on the Romantic period (1820–1850) but the course may include material preceding or following those dates. Conducted in French.

466 Introduction to French Linguistics (3)

The analytical procedures of general linguistics as applied to French, with special attention to structural contrasts between French and English. Emphasis on the application of linguistic analysis to the teaching of modern foreign languages.

475A,B,C,D Seminar in 20th-Century French Literature (3,3,3,3)

Prerequisite: French 305, 315, 317, and 415 or 425. If 415 or 425 has not been completed, one must be taken concurrently. Organizes the study of 20th-century French literature around four major themes. Conducted in French.

475A Exploration of the Self (3)

Search for identity and the quest for personal authenticity. The role of the conscious and unconscious mind and of artistic creativity. Proust, Gide, Mauriac, Valéry, etc.

475B In Search of the Real (3)

The surrealist revolt against bourgeois logic, mores and literature. From Dada to automatic writing to Revolution to *l'amour fou.* Includes precursors and kindred spirits (e.g. Lautréamont, Jarry).

475C The Individual and Society (3)
Attitudes toward personal freedom; the existential sense of responsibility toward one's fellow man. Saint-Exupéry, Malraux, Sartre, Camus, etc.

475D Beyond Despair (3)
Writers after World War II seeking tough-minded visions of man to replace the humanism of the '30's, new kinds of hope "beyond despair", (Sartre's "la vraie vie commence au-delà du désespoir").

485 Senior Seminar in French Literature (3)
Prerequisites: French 305, 315, 317 and senior standing. Exploration of a literary current, period, author, genre or problem. Subject will change each time course is given and may be repeated for credit. Conducted in French.

499 Independent Study (1–3)
Supervised projects in French language or literature to be taken with the consent of the instructor and department chairman. May be repeated for credit.

500 Graduate Seminar: Advanced Structure and Style (3)
Prerequisite: consent of instructor. Conducted in French.

510 Graduate Seminar: Phonology (3)
Prerequisite: French 466 or consent of instructor. Conducted in French.

520 Graduate Seminar: Old French (3)
Prerequisite: consent of instructor. Readings in the medieval literature of northern France representing a wide variety of dialects and centuries. Conducted in French.

530 Graduate Seminar: Historical Linguistics (3)
Prerequisite: French 466 or consent of instructor. Some previous study of Latin is highly recommended. Studies in the phonetic, morphological, syntactic and semantic changes that characterize the development of Latin into the French of today. Conducted in French.

557 Graduate Seminar: French Poetry (3)
Prerequisite: consent of instructor. Conducted in French.

571 Graduate Seminar: French Prose (3)
Prerequisite: consent of instructor. Conducted in French.

575 Graduate Seminar: French Drama
Prerequisite: consent of instructor. Conducted in French

576 Graduate Seminar: Major Writers (3)
Prerequisite: consent of instructor. May be repeated for credit. Conducted in French.

598 Thesis (3–6)
Prerequisite: recommendation of student's graduate committee.

599 Independent Graduate Research (1–3)
Prerequisites: fluency in French and consent of instructor. Supervised research projects in French language or literature. May be repeated for credit.

GERMAN COURSES

100A-J Personalized Instruction in Fundamental German (3–10)
Covers material equivalent to German 101 or 102. Students may enter at any level but must initially register for a minimum of three units. Course is divided into 10 one-unit modules. Students work independently and meet individually with instructors for consultation and tests.

101 Fundamental German—A (5)
Intensive practice in listening comprehension, speaking, reading and writing to develop control of the sounds and the basic forms and structures of German. Audiolingual assignments prepared in the language laboratory are an integral part of the course.

102 Fundamental German—B (5)
Prerequisite: German 101 or equivalent. Intensive practice in listening comprehension, speaking, reading, and writing on a basic level. Audiolingual assignments prepared in the language laboratory are an integral part of the course.

203 Intermediate German—B (3)
Prerequisite: German 102 or equivalent. Intensive practice in speaking, understanding, reading, and writing based on cultural and literary materials. Linguistic analysis from sound to sentence. Conducted in German.

204 Intermediate German—B (3)
Prerequisite: German 203 or equivalent. Intensive practice in speaking, understanding, reading and writing based on cultural and literary materials. Linguistic analysis from sound to sentence. Conducted in German.

213 Intermediate Reading (2)
Prerequisite: German 102 or equivalent. Practice in skills to develop reading comprehension. Required for major and minor. May be taken concurrently with German 203. Conducted in German.

214 Intermediate Reading (2)
Prerequisite: German 203 or equivalent. Continuation of German 213. Practice in skills to develop reading comprehension. Required for major and minor. May be taken concurrently with German 204. Conducted in German.

315 Introduction to German Civilization (3)
Prerequisite: German 204 or equivalent. Open to lower division students with consent of instructor. Readings and discussions in German literature, arts and institutions to develop insights into German culture, while strengthening facility with the language. Conducted in German.

317 Advanced Conversation and Composition (3)
Prerequisite: German 204 or equivalent. Open to lower division students with consent of instructor. Emphasis on free oral and written expression. Conducted in German.

318 Advanced Composition and Grammar (3)
Prerequisite: German 317 or consent of instructor. Designed to give the student special competence in the control of German as an instrument for free oral and written expression. Conducted in German.

325 Current Trends in Culture of German-Speaking Peoples (3)
Prerequisite: German 204 or equivalent. Open to lower division students with consent of instructor. Readings and discussion designed to acquaint the student with a broad range of German contributions to present-day civilization while strengthening facility with German language. Conducted in German.

375 Introduction to Literary Forms (3)
Prerequisite: German 317 or consent of instructor. Introduction to the principal literary forms, prose fiction, poetry, drama and the essay and to the major concepts of literary techniques and criticism. Close analysis and interpretation of various texts. Conducted in German.

390 Group Reading and Oral Interpretation (3)
Prerequisite: German through fourth semester or consent of instructor. Oral reading of *Hörspiele,* dramatic literature and poetry in groups. Emphasis on practice in reading aloud, with simultaneous discussion of surface, inner and personal meaning of the works. Conducted in German.

399 German Phonetics (2)
Prerequisites: junior standing and consent of instructor. Detailed analysis of individual problems in pronunciation followed by intensive work in class and the language laboratory. May be repeated for credit. Conducted in German.

400 German for Advanced Students and Teachers (3)
Prerequisites: German 317 or consent of instructor. Intensive review of German while developing the student's powers of self-expression in the spoken and written language. Conducted in German.

430 German Literature and Culture to the Baroque (3)
Prerequisite: German 315, 317 and 375, or consent of instructor. Masterpieces of German literature from the *Hildebrandslied* to *Der Abenteuerliche Simplicissimus* and their relationship to cultural, historical and intellectual developments between ca. 800–1670 A.D. Conducted in German.

440 18th-Century German Literature and Culture (3)
Prerequisite: German 315, 317 and 375, or consent of instructor. The principal authors and movements (Enlightenment, Storm and Stress, Classicism, early Romanticism) of the 18th century. Conducted in German.

450 19th-Century German Literature and Culture (3)
Prerequisite: German 315, 317 and 375, or consent of instructor. Significant impulses in 19th-century German literature from Romanticism to Naturalism, including examination of decisive philosophic, political, and economic influences. Conducted in German.

460 20th-Century German Literature and Culture (3)
Prerequisite: German 315, 317, 375, or consent of instructor. Major German prose, drama and poetry of the 20th century. Conducted in German.

466 Introduction to German Linguistics (3)
The analytical procedures of general linguistics as applied to German, with special attention to structural contrasts between German and English. Emphasis on the application of linguistic analysis to the teaching of modern foreign languages.

482 German Literature and Culture in Film (3)
Prerequisite: advanced standing in literature or consent of instructor. A critical study of literary works and their film adaptations. Significant works of German literature will be analyzed and compared in both art forms.

485 Senior Seminar in German Literature (3)
Prerequisite: senior standing in German. Research and discussion in depth of a literary movement, a genre or an author. Subject varies and is announced in the *Class Schedule*. May be repeated for credit with a different topic. Conducted in German.

490 Oral Interpretation of Literature (3)
Prerequisite: consent of instructor. Group and individual reading of various types of literature to develop oral and interpretative skills. Conducted in German.

499 Independent Study (1-3)
Supervised research projects in German Language or literature to be taken with consent of instructor and department chair. May be repeated for credit.

500 Graduate Seminar: Advanced Structure and Style (3)
Prerequisite: consent of instructor. Conducted in German.

510 Graduate Seminar: Phonology (3)
Prerequisite: German 466 or consent of instructor. Conducted in German.

530 Graduate Seminar: Historical Linguistics (3)
Prerequisite: German 466 or consent of instructor. Conducted in German.

550A,B,C Interpretation of Literature (2,2,2)
Prerequisite: consent of instructor. Interpretation of literary works in advanced language classes. Conducted in German. A—the narrative, B—the drama, C—poetry.

571 Graduate Seminar: German Literature (3)
Prerequisite: consent of instructor. Subject will vary and will be announced in the *Class Schedule*. May be repeated for credit with a different topic. Conducted in German.

576 Graduate Seminar: Major Writers (3)
Prerequisite: consent of instructor. Subject will vary and will be announced in the *Class Schedule*. May be repeated for credit with a different topic. Conducted in German.

598 Thesis (3-6)
Prerequisite: recommendation of student's graduate committee.

599 Independent Graduate Research (1-3)
Prerequisites: fluency in German and consent of instructor. Supervised research projects in German language or literature. May be repeated for credit.

GREEK COURSES

101 Fundamental Greek—A (3)
Intensive practice to develop a comprehensive reading knowledge and a fundamental writing ability in ancient Greek with emphasis on Biblical texts.

102 Fundamental Greek—B (3)
Intensive practice to develop a comprehensive reading knowledge and a fundamental writing ability in ancient Greek with emphasis on Biblical texts.

299 Directed Study (1–3)
Prerequisite: Greek 102 or equivalent. Supervised study projects in Greek language or literature to be taken with consent of instructor and department chair. May be repeated for credit.

HEBREW COURSES

101 Fundamental Hebrew—A (4)
Intensive practice in listening comprehension, speaking, reading and writing to develop control of

the sounds and the basic structure of Hebrew.

102 Fundamental Hebrew—B (4)

Prerequisite: Hebrew 101. Intensive practice in listening comprehension, speaking, reading and writing to develop control of the sounds and the basic structure of Hebrew.

203 Intermediate Hebrew—A (3)

Prerequisite: Hebrew 102 or consent of instructor. Intensive practice in speaking, understanding, reading and writing based on cultural and literary materials. Linguistic analysis from sound to sentence. Conducted in Hebrew.

204 Intermediate Hebrew—B (3)

Prerequisite: Hebrew 203 or consent of instructor. Intensive practice in speaking, understanding, reading and writing based on cultural and literary materials. Linguistic analysis from sound to sentence. Conducted in Hebrew.

299 Directed Study (1-3)

Prerequisite: Hebrew 102 or equivalent. Supervised study projects in Hebrew language or literature to be taken with consent of instructor and department chair. May be repeated for credit.

ITALIAN COURSES

101 Fundamental Italian—A (4)

Intensive practice in listening comprehension, speaking and writing to develop control of the sounds and the basic structure of Italian. Audiolingual assignments are an integral part of the course and are to be prepared in the language laboratory. Conducted in Italian.

102 Fundamental Italian—B (4)

Prerequisite: Italian 101 or equivalent. Practice in listening comprehension, speaking, reading and writing to develop control of the sounds and basic structure of Italian. Audiolingual assignments are an integral part of the course. Conducted in Italian.

203 Intermediate Italian—A (3)

Prerequisite: Italian 102 or equivalent. Intensive practice in speaking, understanding, reading and writing based on cultural and literary materials. Linguistic analysis from sound to sentence. Conducted in Italian.

299 Directed Study (1–3)

Prerequisite: Italian 102 or equivalent. Supervised study projects in Italian language or literature to be taken with consent of instructor and department chair. May be repeated for credit.

JAPANESE COURSES

101 Fundamental Japanese—A (3)

Practice in listening-comprehension, speaking and writing to develop control of the sounds and the basic structure of Japanese. Audiolingual assignments will be prepared in the language laboratory. Conducted in Japanese.

102 Fundamental Japanese—B (3)

Prerequisite: Japanese 101 or equivalent. Practice in listening-comprehension, speaking and writing to develop control of the sounds and the basic structure of Japanese. Audiolingual assignments will be prepared in the language laboratory. Conducted in Japanese.

203 Intermediate Japanese—A (3)

Prerequisite: Japanese 102 or equivalent. Instruction in reading, writing, speaking, and comprehending of modern Japanese at the intermediate level.

204 Intermediate Japanese—B (3)

Prerequisite: Japanese 203 or equivalent. Instruction in reading, writing, speaking and comprehending of modern Japanese at the intermediate level.

299 Directed Study (1–3)

Prerequisite: Japanese 102 or equivalent. Supervised study projects in Japanese language or literature to be taken with consent of instructor and department chair. May be repeated for credit.

LATIN COURSES

101 Fundamental Latin—A (3)
Intensive practice to develop a comprehensive reading knowledge and a fundamental writing ability in Latin. Modern techniques of language instruction will be applied.

102 Fundamental Latin—B (3)
Prerequisite: Latin 101 or equivalent. Intensive practice to develop a comprehensive reading knowledge and a fundamental writing ability in Latin. Modern techniques of language instruction will be applied.

299 Directed Study (1-3)
Prerequisite: Latin 102 or equivalent. Supervised study projects in Latin language or literature to be taken with consent of instructor and department chair. May be repeated for credit.

PORTUGUESE COURSES

101 Fundamental Portuguese—A (4)
Listening comprehension, speaking, reading comprehension, and writing to develop control of the sounds and the basic forms and structures of Portuguese. Enrollment restricted to students with previous study of a Romance language. Conducted in Portuguese.

102 Fundamental Portuguese—B (4)
Prerequisite: Portuguese 101 or equivalent. Listening comprehension, speaking, reading comprehension, and writing to develop control of the sounds and the basic forms and structures of Portuguese. Enrollment restricted to students with previous study of a Romance language. Conducted in Portuguese.

315 Introduction to Luso-Brazilian Culture and Civilization (3)
Prerequisite: Portuguese 102 or equivalent, reading knowledge of Portuguese or consent of instructor. Insights into the main currents of Portuguese culture and civilization and Brazil's intellectual and artistic development from discovery to Independence. Conducted in Portuguese.

317 Advanced Conversation and Composition (3)
Prerequisite: Portuguese 102 or equivalent. Open to lower division students with consent of instructor. Emphasis on free oral and written expression. Conducted in Portuguese.

318 Advanced Conversation and Composition (3)
Prerequisite: Portuguese 102 or equivalent. Open to lower division students with consent of instructor. Designed to give the student special competence in the control of Portuguese as an instrument for free oral and written expression. Conducted in Portuguese.

325 Contemporary Brazilian Civilization (3)
Prerequisite: Portuguese 315 or consent of instructor. Readings and discussion toward developing an understanding of the social and intellectual problems, trends, and contributions to Brazil since Independence. Major emphasis on present day Brazil. Conducted in Portuguese.

431 Portuguese Literature (3)
Prerequisite: Portuguese 315 or consent of instructor. Portuguese literature from the Middle Ages to the present. The major works of Gil Vicente, Luis de Camoens, Eça de Queiroz and others examined from an aesthetic and cultural standpoint. Conducted in Portuguese.

441 Brazilian Literature (3)
Prerequisite: consent of instructor. The literature of Brazil from the Colonial period to the present. Conducted in Portuguese.

499 Independent Study (1-3)
Supervised projects in Portuguese language or literature to be taken with consent of instructor and department chair. May be repeated for credit.

RUSSIAN COURSES

101 Fundamental Russian—A (5)
Intensive practice in listening comprehension, speaking, reading and writing to develop control of the sounds and the basic forms and structure of Russian. Audiolingual assignments are an integral part of the course and are to be prepared in the language laboratory.

102 Fundamental Russian—B (5)
Prerequisite: Russian 101 or equivalent. Intensive practice in listening comprehension, speaking, reading and writing on a basic level. Audiolingual assignments are an integral part of the course and are to be prepared in the language laboratory.

203 Fundamental Russian—A (3)
Prerequisite: Russian 102 or equivalent. Intensive practice in speaking, understanding, reading, and writing based on cultural and literary materials. Linguistic analysis from sound to sentence. Conducted in Russian.

204 Intermediate Russian—B (3)
Prerequisite: Russian 203 or equivalent. Intensive practice in speaking, understanding, reading and writing based on cultural and literary materials. Linguistic analysis from sound to sentence. Conducted in Russian.

316 Russian Civilization and Culture (3)
Insights into the main currents of Russian institutions, culture, and civilization and Russia's intellectual and artistic development. Conducted in Russian.

317 Advanced Conversation and Composition (3)
Prerequisite: Russian 204 or equivalent. Open to lower division students with consent of instructor. Emphasis on free oral and written expression. Conducted in Russian.

318 Advanced Composition and Grammar (3)
Prerequisite: Russian 317 or equivalent. Designed to give the student special competence in the control of Russian as an instrument for free oral and written expression. Conducted in Russian.

375 Introduction to Literary Forms (3)
Prerequisite: Russian 317 or consent of instructor. Introduction to the principal literary forms, prose fiction, poetry, drama and essay, and to the major concepts of literary techniques and criticism. Close analysis and interpretation of various texts. Conducted in Russian.

441 The Works of Tolstoy and Dostoevsky (3)
Prerequisite: Russian 315 or consent of instructor. Major works of Tolstoy and Dostoevsky in their intellectual and historical setting and their impact on Russian and world literature. Conducted in Russian.

451 The Golden Age of Russian Literature (3)
Prerequisite: Russian 315 or consent of instructor. A study of major literary works of the first half of the 19th century which exemplify cultural and intellectual movements in Russia. Conducted in Russian.

461 Russian Literature from 1917 (3)
Prerequisite: Russian 315 or consent of instructor. Representative works of outstanding modern Russian writers. Analysis and discussion of their prose and poetry in the light of the social problems of present-day Russia. Conducted in Russian.

466 Introduction to Russian Linguistics (3)
Prerequisite: Russian 317 or consent of instructor. The analytical procedures of general linguistics as applied to Russian with special attention to structural contrasts between Russian and English. Emphasis on the application of linguistic analysis to the teaching of modern foreign languages.

499 Independent Study (1-3)
Supervised projects in Russian language or literature to be taken with consent of instructor and department chair. May be repeated for credit.

SPANISH COURSES

101 Fundamental Spanish—A (5)
Intensive practice in listening comprehension, speaking, reading and writing to develop control of the sounds and the basic forms and structure of Spanish. Assignments in the language laboratory are an integral part of the course. Conducted in Spanish.

102 Fundamental Spanish—B (5)
Prerequisite: Spanish 101 or equivalent. Intensive practice in listening comprehension, speaking, reading and writing to develop control of the sounds and the basic forms and structures of Spanish. Assignments in the language laboratory are an integral part of the course. Conducted in Spanish.

103 Intensive Review of Fundamental Spanish (5)
For students who have completed 1-2 years of high school Spanish or equivalent and need an intensive review of first-year Spanish, equivalent to Spanish 101 and 102. Assignments in the language laboratory are an integral part of the course. Conducted in Spanish.

56 9 1 200

105 Spanish for the Public Service Professional (3)
Fundamentals of Spanish with emphasis on a specific professional vocabulary (e.g., health service, law enforcement) to be announced in class schedule. No credit for Spanish major.

203 Intermediate Spanish—A (3)
Prerequisite: Spanish 102 or equivalent. Intensive practice in speaking, understanding, reading and writing based on cultural and literary materials. Linguistic analysis from sound to sentence. Conducted in Spanish.

204 Intermediate Spanish—B (3)
Prerequisite: Spanish 203 or equivalent. Intensive practice in speaking, understanding, reading and writing based on cultural and literary materials. Linguistic analysis from sound to sentence. Conducted in Spanish.

213 Intermediate Conversation (2)
Practice in oral expression based on a variety of materials. May be taken concurrently with Spanish 203. Conducted in Spanish.

214 Intermediate Composition (2)
Practice in written expression based on cultural and literary materials. May be taken concurrently with Spanish 204. Conducted in Spanish.

299 Spanish Phonetics (2)
Prerequisite: junior standing and consent of instructor. Detailed analysis of students' specific problems in pronunciation followed by intensive work in class and the language laboratory until articulatory proficiency is achieved. May be repeated for credit. Conducted in Spanish.

300 Spanish Conversation (3)
Prerequisite: Spanish 204 or equivalent. Designed to enable the student to develop further his oral control of the language in the context of his own or contemporary concerns. No credit for major. Conducted in Spanish.

315 Introduction to Spanish Civilization (3)
Prerequisite: Spanish 204 or equivalent. Open to lower division students with consent of instructor. Readings and discussions in Spanish literature, arts and institutions to develop insights into Spanish culture, while strengthening facility with the language. Conducted in Spanish.

316 Introduction to Spanish-American Civilization (3)
Prerequisite: Spanish 204 or equivalent. Open to lower division students with consent of instructor. Readings and discussion in Spanish-American literature, arts and institutions to develop insights into Spanish-American literature and culture while strengthening facility with the language. Conducted in Spanish.

317 Advanced Conversation and Composition (3)
Prerequisite: Spanish 204 or equivalent. Open to lower division students with consent of instructor. Emphasis on free oral and written expression. Conducted in Spanish.

318 Advanced Spanish Syntax and Composition (3)
Emphasis on linguistic problems encountered by the Spanish/English bilingual student in connection with his written expression. Conducted in Spanish.

375 Introduction to Literary Forms (3)
Prerequisite: Spanish 317 or consent of instructor. Introduction to literary forms and concepts of literary techniques and criticism. Analysis and interpretation of various texts to increase the students' abilities in reading, language, and literary criticism. Conducted in Spanish.

400 Spanish for Advanced Students and Teachers (3)
Prerequisite: Spanish 317 or consent of instructor. Intensive study of spoken and written Spanish. Designed to develop the student's powers of self-expression and his ability to analyze the structure of the written language. Conducted in Spanish.

415 Contemporary Spanish Culture (3)
Prerequisite: Spanish 315 or consent of instructor. An analysis and study of the cultural—social, economical, political—characteristics of contemporary Spanish life. Conducted in Spanish.

416 Contemporary Spanish-American Culture (3)
Prerequisite: Spanish 316 or consent of instructor. An analysis and study of the social, economic, artistic, and political aspects of contemporary life in Spanish America. Conducted in Spanish.

430 Spanish Literature to Neoclassicism (3)
Prerequisite: Spanish 315 and 375. Spanish literature from its beginnings to 1700, with special emphasis on the outstanding representative works of each genre. Conducted in Spanish.

440 Spanish-American Literature (3)
Prerequisites: Spanish 316 and 375 or consent of instructor. Spanish-American Literature from The Conquest to 1888. Conducted in Spanish.

441 Spanish-American Literature (3)
Prerequisites: Spanish 315 and 375 or consent of instructor. Spanish-American Literature from *modernismo* to the present. Conducted in Spanish.

461 Spanish Literature Since Neoclassicism (3)
Prerequisites: Spanish 315 and 375 or consent of instructor. Representative works of 19th- and 20th-century Spain. Conducted in Spanish.

466 Introduction to Spanish Linguistics (3)
The analytical procedures of general linguistics as applied to Spanish, with special attention to structural contrasts between Spanish and English. Emphasis on the application of linguistic analysis to the teaching of modern foreign languages. Conducted in Spanish.

467 Dialectology: Current Trends in Modern Spanish (3)
Prerequisite: Spanish 317 or 318, 400 or equivalent and 466, the latter of which may be taken concurrently. Focuses on the differences in phonology, morphology, syntax and lexicon in linguistic patterns in all Spanish-speaking regions. Conducted in Spanish.

468 Spanish-English Contrastive Analysis (3)
Prerequisite: Spanish 317 or 318, 400 or equivalent, and 466, the latter of which may be taken concurrently. Theory and performance techniques for contrasting phonological, grammatical and lexical structures of Spanish and English. Conducted in Spanish.

475 Senior Seminar: Topics in Spanish Peninsular Literature (3)
Prerequisite: senior standing in Spanish. Exploration of selected topics of the literature of Spain. Subject matter will change. May be repeated for credit. Conducted in Spanish.

485 Senior Seminar: Topics in Spanish American Literature (3)
Prerequisite: senior standing in Spanish. Exploration of selected topics of the literature of Spanish America. Subject matter will change. May be repeated for credit. Conducted in Spanish.

499 Independent Study (1-3)
Supervised research projects in Spanish language or literature to be taken with consent of instructor and department chair. May be repeated for credit.

500 Graduate Seminar: Advanced Structure and Style (3)
Prerequisite: Spanish 466 or equivalent. Conducted in Spanish.

510 Graduate Seminar: Phonology (3)
Prerequisite: Spanish 466 or equivalent. Conducted in Spanish.

525 Graduate Seminar: Research in Bilingual Language Acquisition (Spanish-English) (3)
Prerequisites: Spanish 466, 468 and/or consent of instructor. To provide methodology for research in: language acquisition patterns and language development patterns of the Spanish-English bilingual; sociolinguistics and psycholinguistics as related to the Spanish-English bilingual; the interaction of culture and language acquisition and development.

530 Graduate Seminar: Historical Linguistics (3)
Prerequisite: Spanish 466 or equivalent. Conducted in Spanish.

556 Graduate Seminar: Spanish Poetry (3)
Prerequisite: Spanish 430 or 461 or equivalent. Conducted in Spanish.

557 Graduate Seminar: Spanish-American Poetry (3)
Prerequisite: Spanish 441 or equivalent. Conducted in Spanish.

567 Graduate Seminar: Spanish-American Novel (3)
Prerequisite: Spanish 441 or equivalent. Conducted in Spanish.

571 Graduate Seminar: Spanish Prose (3)
Prerequisite: Spanish 430 or 461 or equivalent. Conducted in Spanish.

575 Graduate Seminar: Spanish Drama (3)
Prerequisite: Spanish 430 or 461 or equivalent. Conducted in Spanish.

576 Graduate Seminar: Hispanic Topics (3)
Prerequisite: Spanish 430 or 441 or 461 or equivalent. May be repeated for credit with different subject matter. Conducted in Spanish.

598 Thesis (3-6)
Prerequisite: recommendation of student's graduate committee.

599 Independent Graduate Research (1-3)
Prerequisites: fluency in Spanish and consent of instructor. Supervised research projects in Spanish language or literature. May be repeated for credit.

SWAHILI COURSES

101 Fundamental Swahili (4)

Intensive practice in listening comprehension, speaking and writing to master the basic structure of Swahili and the requisite skills for both oral and written communication. Conducted in Swahili. (Same as Afro-Ethnic Studies 104)

102 Fundamental Swahili (4)

Prerequisite: Swahili 101 or equivalent. Intensive practice in listening comprehension, speaking and writing to master the basic structure of Swahili and the requisite skills for both oral and written communication. Conducted in Swahili. (Same as Afro-Ethnic Studies 105)

POST-BACCALAUREATE COURSE

301 Basic Spanish Conversation (3)

Prerequisite: possession of a baccalaureate degree. Designed for post-baccalaureate students, especially teachers and other professionals who need basic skills to communicate with Spanish-speaking people. No credit for the Spanish major. (Offered by Department of Foreign Languages and Literatures)

DEPARTMENT OF GEOGRAPHY

FACULTY

Barbara Weightman, Department Chair

Arthur Earick, Peter Eilers, Wayne Engstrom, Glenn George, Gary Hannes, Ronald Helin, William Ketteringham, Tso-Hwa Lee, Bill Puzo, Gertrude Reith, Imre Sutton, Robert Young

The major in geography provides knowledge concerning variety and change in the earth's physical foundation and in man's economic, cultural and political relationship to that foundation. In doing so it contributes to a broad, liberal education and furnishes sound preparation for employment in business, planning, and government service. The field also provides a foundation for teaching on the elementary and secondary levels and for advanced geographic study on the graduate level leading to university teaching and research.

Students and counselors are advised that departmental offerings are numbered according to *course content* as follows.

general courses:	00-09 (e.g., Geography 100 or 500)
physical courses:	10-29 (e.g., Geography 211 or 323)
regional courses:	30-49 (e.g., Geography 344 or 433)
human courses:	50-79 (e.g., Geography 250 or 367)
technical courses:	80-89 (e.g., Geography 280 or 381)
special studies:	90-99 (e.g., Geography 495 or 599)

BACHELOR OF ARTS IN GEOGRAPHY

The major consists of at least 42 units of geography, excluding all work used to satisfy the general education requirements and including:

A. A 10-unit geography core (211, 250, 280)

B. A 12-unit breadth requirement in upper division geography, including one course from each of the following groups—*physical, regional, human, technical.*

C. A six-unit requirement in 400-level geography, excluding the 490s and all work used to satisfy the 12-unit breadth requirement.

Students may satisfy requirements A, B and C with equivalent course work taken at other institutions; they may also transfer into the major an additional six units of lower division geography and an unlimited amount of upper division geography. A three-unit non-laboratory course in introductory physical geography taken at another institution will be accepted in place of Geography 211, the four-unit laboratory course offered at this university.

No *unit* credit toward the major will be allowed for geography courses in which a grade of D is received. *Content* credit for such courses may be allowed by the *departmental undergraduate adviser.*

TEACHING CREDENTIAL PROGRAMS

The curricula designed for single and multiple subject examination waiver in geography/social science are under review. Students should consult the *departmental undergraduate adviser* as to the potential changes in the geography major under the provisions of the Ryan Act.

MINOR IN GEOGRAPHY

The minor in geography serves students who wish to pursue a second field related to interdisciplinary studies or an elective concentration. Interested students should take at least 21 units of geography, including the *core* (211, 250, 280) and a minimum of nine units of upper division work from at least three of the following groups—*physical, regional, human, technical.*

MASTER OF ARTS IN GEOGRAPHY

This program provides advanced study in geographic concepts, techniques and methods. Through seminars and research it develops the analytical and interpretive abilities of the student, and provides requisite background for employment in teaching, government and business.

Prerequisites

Students must meet the university and school requirements for admission to conditionally classified graduate standing with the declared objective of this degree. Please see the section of this catalog on admission of graduates.

Classified standing requires the equivalent of 33 semester units in geography, including the following: (1) nine units in introductory geography; (2) nine units in upper division physical and human geography, including at least three units in physical and three units in human geography; (3) three units in upper division geographic techniques; (4) three units in upper division regional geography; and (5) nine units of geography electives, of which six units must be the equivalent of 400-level. A 3.0 (B) average in all geography courses is required prior to classification in the program. Course or grade deficiencies may be made up with consent of the *departmental* graduate committee. After completion of all prerequisites and removal of deficiencies, if any, the student is reviewed for classification into the program by the *departmental* graduate committee, which then supervises the student in the formulation of an official study plan.

A study plan must be developed and approved for admission to classified graduate standing.

Study Plan

Requirements for the completion of the degree program include:

A. 30 units of approved upper division and graduate-level work distributed as follows:

		Units
Geography seminars	*(Minimum of)*	9
Geography 597, Project, *or* Geography 598, Thesis		6
Elective upper division or graduate work in geography (for which up to 6 units may be taken in related fields) including techniques		15
Total		30

B. A technique requirement equivalent to nine units, completed prior to Advancement to Candidacy. This includes the three units used as prerequisite. The remaining six units may be upper division undergraduate and/or graduate level.

Candidacy is attained on the satisfactory completion of the following: (1) 12 approved units of work with B or better in each course, including at least three units in a 500-level seminar; (2) the technique requirement; (3) selection of a field of specialization and an appropriate adviser as chair of the *student's* graduate committee. Each candidate will prepare either two three-unit projects or a six-unit thesis. Before registering for Geography 597 or 598, a candidate must have topic(s) approved by the *student's* graduate committee. The candidate must submit to the committee a detailed written research proposal which indicates knowledge of the appropriate literature and of techniques of data collection and analysis. The committee will then discuss this proposal with the candidate, to determine his/her competence to pursue the topic as outlined, and assure that both the student and the committee understand what is to be done. The committee can modify, accept or reject the proposal. Students interested in foreign area studies are expected to demonstrate a proficiency in a suitable foreign language.

All graduate students are to confer with the departmental graduate adviser sometime during the first two weeks of each semester; for further information, consult this adviser.

See also "The Program of Master's Degrees" in this catalog and the *Graduate Bulletin.*

GEOGRAPHY COURSES

100 Man and the Land (3)
A survey of the world's major geographical regions. Discussions of the physical and human elements that differentiate the regions and give identity to each. Consideration of the link between ways of life and the environments in which they are found.

150 Environment in Crisis (3)
A geographic analysis and approach to the problems of man and his environment, dealing with man's interpretation of the environment and his use and misuse thereof. Factors of discussion will include population, nutrition, health, settlement, pollution, resource utilization and local environmental problems.

170 Introduction to the City (3)
An introduction to urban studies which examines geographic variations in the urbanization process, compares great world and American cities, and analyzes spatial patterns within the city. Understanding and experiencing the city as a man-made environment.

211 Physical Geography (4)
A study of the basic elements of the physical environment (e.g. weather, climate, landforms, vegetation and soils) and an analysis of their world distribution and interrelationships. (3 hours lecture, 2 hours activity)

250 Human Geography (3)
A topical and systematic interpretation of world patterns of livelihood, and settlement, focusing on the varying roles of population, environmental perception, human organization and technology.

280a–f Introduction to Geographical Analysis (1)
Prerequisite: minimum of one other core course in geography (i.e., 211 or 250) or consent of instructors. Selective studies in the technical interpretation of physical and human features and activities in the landscape. Majors must take a total of three units.

280a Interpretation of Maps and Aerial Photographs (1)
An introduction to the uses of maps and aerial photographs in geographic research. Emphasis is placed on types of data which can be obtained from these sources as well as on rudimentary measurement techniques.

280b Introduction to Field Methods (1)
A basic introduction to the study of geographic phenomena in their actual setting—"the field."

280c Introduction to Quantitative Methods (1)
Basic introduction to the use of descriptive statistics in geography. Review of the relationships of graphs, functions and equations, logarithms and exponents, and an overview of the linear regression model.

280d Terrain Measurement Techniques (1)
An introduction to methods of measuring land surface form from topographic maps.

280e Library Techniques for Geographers (1)
An introductory study of library research for geographic inquiry, with emphasis on how and where to find the needed information as well as the uses of such information.

280f Geographic Writing (1)
A workshop or tutorial instruction, providing writing experience relevant to the training of geographers.

312 Geomorphology (3)
Prerequisite: Geography 211 or Earth Science 101. A study of landforms and the processes which are responsible for their evolution.

323 Weather and Climate (3)
Prerequisite: Geography 211 or consent of instructor. A study of atmospheric elements and controls, fronts, severe weather, and climatic classification systems.

325 Plant Geography (3)
Prerequisite: Geography 211 or consent of instructor. A geographic analysis of world distribution, ecology and description of vegetation patterns including reference to human influences.

330 Geography of California (3)
Prerequisite: upper division standing. Description and analysis of the geographic regions of California —their environmental diversity, occupance patterns, and current problems.

332 Geography of Anglo-America (3)
Prerequisite: upper division standing. A regional study of the United States and Canada emphasizing the interrelated physical and cultural features that give geographic personality to the individual regions.

333 Geography of Latin America (3)
Prerequisite: upper division standing. A systematic and regional survey of Middle and South America with particular emphasis on the interrelationships of the physical and social factors of the area.

336 Geography of Europe (3)
Prerequisite: upper division standing. A survey of the basic physical and human lineaments of Europe and of the elements that distinguish and give character to its major regional divisions.

338 Geography of the Soviet Union (3)
Prerequisite: upper division standing. A study of the geographic factors, cultural and physical, that are basic to an understanding of the historical development of Russia and of the contemporary economic and cultural geography of the U.S.S.R. and its regions.

341 Geography of Asia: Selected Regions (3)
Prerequisite: upper division standing. A regional geography of various countries or groups of countries (e.g., China, Japan, India, Southeast Asia) in terms of physical and cultural characteristics and interrelationships. May be repeated once for credit so long as the region discussed is different.

344 Geography of Africa (3)
Prerequisite: upper division standing. The physical, human and regional geography of Africa with emphasis on Saharan borderlands, East Africa and Southern Africa.

346 Australia and the Pacific Islands (3)
Prerequisite: Geography 100 or consent of instructor. The physical, cultural and regional geography of Australia, New Zealand, Melanesia, Micronesia and Polynesia.

350 Conservation and Ecology in America (3)
Prerequisite: upper division standing. Interpretations of environmental change and resource-use problems, with discussions of land ethics, environmental law, public policy and technological impacts.

355 Population Perspectives (3)
Prerequisite: upper division standing. A geographic approach to population patterns, processes, and problems. An investigation of social, economic and environmental factors of population growth, mobility and distribution.

359 Topics in Human Geography (1)
Prerequisite: upper division standing. Brief courses on topics germane to man's social, cultural, economic or political relationships to the environment (e.g., poverty, housing, minorities). May be repeated for credit.

360 Economic Geography (3)
A systematic inquiry into the spatial distribution of economic activities: agriculture, extractive and manufacturing industries, and tertiary services.

367 Political Geography (3)
Prerequisite: upper division standing. A systematic inquiry into the geographic bases of political territories, from the municipal to the international level with an emphasis on sovereign states. Special consideration will be given to perception of political units and to relationships among political territories.

370 Urban Geography (3)
Prerequisite: upper division standing. The city as a geographic unit; urban settlements as regional centers; city-region relationships; the structure of villages, towns and cities, and their historical developments; case studies.

381 Cartography (3)
Prerequisite: geography core or consent of instructor. Compilation and construction of maps and graphs as geographic tools, with emphasis on the principles of effective cartographic representation. (1 hour lecture, 6 hours laboratory)

384 Airphoto and Image Interpretation (3)
Prerequisite: geography core or consent of instructor. Use of aerial photography, space photography and other remote sensors as tools and research sources. Emphasis on interpretation of physical and cultural elements of the landscape. (2 hours lecture, 3 hours activity)

386 Data Processing for Geographic Information (3)
Prerequisite: geography core or consent of instructor. An introduction to the use of a digital computer in solving geographical problems. Includes the acquisition of basic computer programming skills and the investigation of spatially-oriented problems. (2 hours lecture, 2 hours activity)

412 Regional Geomorphology of the United States (3)
Prerequisite: Geography 312 or consent of instructor. A seminar examining the major physiographic provinces of the United States. Special emphasis is placed on the record that present and past geomorphic processes have left on the landscape.

423 Physical Climatology (3)
Prerequisite: Geography 323 or consent of instructor. A seminar on selected topics in atmospheric science, including heat-transfer, radiation laws, atmospheric motion, vorticity concepts, and urban effects. (2 hours lecture, 2 hours activity)

426 Man and the Coastal Environment (3)
Prerequisite: Geography 211; 325 and 312 recommended. A seminar for students in geography, related disciplines, and in environmental studies. An ecological approach to man's impact on coastal environments, emphasizing the West Coast of North America.

431 Man's Impact on the California Environment (3)
Prerequisite: Geography 330 or upper division standing. A seminar analyzing selected geographic problems which have resulted from man's impact on the land and its resources.

433 Man and Geographic Relationships in Latin America (3)
Prerequisite: Geography 333 or consent of instructor. A seminar for advanced students in Latin American studies or geography. Studies of contemporary interest dealing with man and his development in the area of Latin America.

457 Social Geography (3)
Prerequisite: Geography 250. A seminar dealing with the spatial aspects of human behavior, focusing on environmental perception and social problems.

458 Spatial Dynamics (3)
Prerequisite: Geography 355, or 360, or 370, or consent of instructor. A seminar on the sociogeographic approach to the dynamic processes of migration and diffusion with emphasis on the spread of people, ideas and technology in modern societies.

464 Transportation Geography (3)
Prerequisite: Geography 360 or 370 or consent of instructor. A seminar on spatial patterns of both regional and urban transportation networks; use of elementary graph theory in geographic research, transportation planning and methodology.

468 Law and Environment (3)
Prerequisite: Geography 350 or consent of instructor. An interdisciplinary seminar in the role of law and property in the management, and administration of resources and the environment. Studies relate to public trust doctrine, land tenure, water rights, and other topics.

472 Urban Growth and Planning (3)
Prerequisite: Geography 370 or consent of instructor. A seminar on urban development with an emphasis on the decentralizing forces operating in contemporary urban space; identification of trends in the planning process.

482 Advanced Cartography—Thematic Mapping (3)
Prerequisites: Geography 381 and consent of instructor. Application of photographic techniques and cartographic analysis to advanced problems in map compiliation and design. (1 hour lecture, 6 hours laboratory)

485 Quantitative Geography (3)
Prerequisite: geography core or consent of instructor. An introduction to spatial analysis and geographic application of basic concepts of descriptive and inferential statistics. Includes some use of the electronic computer. (2 hours lecture, 2 hours activity)

488 Land Use Analysis (3)
Prerequisites: geography core and consent of instructor. Analysis and interpretation of urban and rural land use and settlement with specific references to geographic field problems. Application of geographic techniques and tools to local field studies.

495 Internship in Applied Geography (3)
Prerequisites: senior standing and consent of instructor. Students work specified number of hours in appropriate public or private organizations under the supervision of their staff and as coordinated by departmental faculty. Interns meet with instructor by arrangement.

499 Independent Study (1-3)
Open to seniors. Student must have consent of instructor under whom study will be taken before enrolling. May be repeated for a maximum of six units of credit.

500 Seminar in the Evolution of Geographic Thought (3)
Prerequisite: graduate standing or consent of instructor. An inquiry into the nature, scope, and development of the geographic discipline.

510 Seminar in Physical Geography (3)
Prerequisite: graduate standing or consent of instructor. A seminar on selected topics pertaining to physical geography. May be repeated once for credit.

530 Seminar in Regional Geography (3)
Prerequisite: graduate standing or consent of instructor. A seminar on selected regions or selected topics within a regional setting. May be repeated once for credit.

550 Seminar in Human Geography (3)
Prerequisite: graduate standing or consent of instructor. A seminar on selected topics pertaining to cultural, political or social geography. May be repeated once for credit.

560 Seminar in Land Utilization (3)
Prerequisite: graduate standing or consent of instructor. A seminar on selected problems in resource utilization, land use planning and economic geography. May be repeated once for credit.

571 Seminar in Urban Problems (3)
Prerequisites: graduate standing and consent of instructor. An in-depth study of selected urban problems. Topics will vary from semester to semester and will allow for concerns of the participants. May be repeated once for credit.

580 Seminar in Geo-Techniques (3)
Prerequisite: graduate standing or consent of instructor. A seminar on selected topics pertaining to geographic techniques. May be repeated once for credit.

597 Project (3)
Prerequisites: advancement to candidacy and consent of adviser. May be repeated once for a maximum of six units of credit.

598 Thesis (3 or 6)
Prerequisites: advancement to candidacy and consent of adviser. May be repeated up to a maximum of six units of credit.

599 Independent Graduate Research (1-3)
Open to graduate students by consent of instructor. May be repeated for credit.

DEPARTMENT OF HISTORY

FACULTY
Thomas Flickema
Department Chair

Gordon Bakken,* Warren Beck, Leland Bellot,* Lauren Breese, Giles Brown,* Jack Crabbs, Lawrence de Graaf, Jack Elenbaas, George Etue, Robert Feldman, Charles Frazee, George Giacumakis, Arthur Hansen, B. Carmon Hardy, Harry Jeffrey, Sam Kupper, Sheldon Maram, Michael Meiselman, Frederic Miller, Mougo Nyaggah, Michael Onorato, David Pivar, Charles Povlovich, Jackson Putnam, Ronald Rietveld, Danton Sailor, Symour Scheinberg, Gary Shumway, Cameron Stewart, Ernest Toy,* David Van Deventer, Nelson Woodard, James Woodward, Kinji Ken Yada, Cecile Zinberg.

BACHELOR OF ARTS IN HISTORY

The undergraduate major in history is designed to provide cultural enrichment, a sense of alternative, and perspectives especially relevant to a society confronted with widespread institutional change. The department offers courses which expose the student to humanities' rich and diverse experience. In addition to subject matter, the department gives particular emphasis to various methodologies and ways of thinking about our past. The major may be pursued to fulfill various professional and cultural objectives common to a liberal arts program. It serves, especially, as a preparation for teaching, law, business, government and other fields.

* University administrative officer

To aid students pursuing specific career orientation, the History Department has developed advisement material concerning careers in law, public policy, international business, domestic business, archival/library work and religious studies. Students seeking to combine an interest in one of these fields with a history major should seek advisement as soon as possible. The History Department offers internships (History 498) which provide work experience as part of the regular class load.

The undergraduate program for the history major contains three well defined levels of study: introductory, intermediate and advanced. At the introductory level, the student has the opportunity to enroll in topical or survey courses in various fields. At the intermediate level, the students build on the foundations established in early study, extending their understanding and moving toward greater sophistication in the use of historical materials. At the advanced level, they will devote themselves to seminar work and independent study in their area or areas of specialization, at which time they will be required to apply their knowledge and training in original and challenging ways.

The undergraduate major requires a total of 39 units: 12 in introductory classes and 27 in intermediate and advanced courses. At the introductory level, each student must complete four topical or survey offerings. At the intermediate level, History 399, Historical Methodology, must be taken along with 18 units, six each in the three fields of United States history; European history; and Latin American, Asian or African history. At the advanced level the student will be required to enroll in a research seminar and any other elective, at the upper division level.

All courses offered in the department may be counted toward fulfillment of the general education and social science requirement for the bachelor's degree at this university.

Students majoring in history are encouraged to take work in other of the social sciences and humanities. Those intending to do graduate work in history should commence the study of at least one foreign language appropriate to the pursuit of advanced study in their particular specialty.

Program of Study for the Major

1. Introductory requirements: 12 units
   - A. Four courses (100-200 level) from three of the following four fields. These may be survey and/or topical courses:
     1. U.S. history (170A,B, 180, and/or 270 topic courses)
     2. European and ancient Mediterranean (110A,B, 115A, B *, 120 and/or 220, 230 topic courses)
     3. Latin America, Middle East, Asian and African (140, 150, 160, 165 and/or 240, 250, 260 topic courses)
     4. World or comparative history (101A,B and/or 210 topic courses)
2. Intermediate requirements: 21 units
   - A. History 399
   - B. At least six units of U.S. history
   - C. At least six units of European history
   - D. At least six units in Latin America, Middle East, Asian or African history
3. Advanced requirements: 6 units
   - A. History 490
   - B. Three units of elective, upper division level

HISTORY MAJOR AND THE RYAN ACT

The State Commission for Teacher Preparation and Licensing has approved the department's history major for the multiple subject credential option of the Teacher Preparation and Licensing Law of 1970 (Ryan Act), as well as for the single subject credential option in history and for the single subject credential option in the social sciences. The successful completion of any of the three subject waivers mentioned above permits a student to receive a credential without taking the State Licensing Examination. For further information consult the History Department.

MINOR IN HISTORY

The minor in history is composed of units in history exclusive of the general education requirements.

Recommended minor:	*Units*
Introduction courses	9
Electives at the intermediate and advanced levels	12
Total	21

* See course descriptions

MASTER OF ARTS IN HISTORY

The Master of Arts in History is designed to improve the student's academic and professional competence for educational services at the elementary, secondary and community college levels and as preparation for advanced graduate work toward the doctoral degree in history. It is relevant to various other specialties in public or private enterprise and general culture or community service. The program seeks to deepen the students understanding of man's condition through a careful study of human experience.

Prerequisite

An applicant must meet the university requirements for admission in conditionally classified graduate standing: a baccalaureate degree from an accredited institution and a grade-point average of at least 2.5 in the last 60 semester units attempted (see section of this catalog on admission of graduates for complete statement and procedures).

A student who meets the requirements for conditionally classified graduate standing, as well as the following requirements, may be admitted as a classified graduate upon the development of an approved study plan: an undergraduate major in history equivalent to the Cal State Fullerton major with at least a GPA of 3.0 in the upper division history courses. Each student's background and record are evaluated by the department graduate program adviser.

Students with limited subject, grade, or breadth deficiencies may be considered for classified standing in the program upon completing courses approved by the graduate program adviser in history in addition to those required for the degree, with at least a B average.

Study Plan

Of the 30 units of adviser-approved graduate courses on the study plan for the degree, 18 must be in appropriate work at the 500-level. The remaining 12 units must include a minimum of three units in history and, therefore, may include up to nine units in other fields. The required courses for both Plan I and Plan II are:

History 501 Seminar in the Content and Method of History (3)
History 590 History and Historians (3)
A research seminar in a field of concentration (3 units)

Plan I:

A primary focus in one area in which a field is intensively developed. This results in a specific topic of research with a written thesis as the final product (History 598, Thesis: 3-6 units).

An oral examination on the thesis and the coursework will be required upon completion of the coursework but prior to the final draft of the thesis.

Plan II:

The focus in this plan is in two fields not found in the same general area. There is a minimum requirement of one graduate research seminar besides History 501 and 590. There is also a minimum requirement of one graduate reading seminar in the recent interpretations of history in the particular fields of interest.

A written comprehensive in each of the two fields will be required upon completion of the program.

Students in the History Department's graduate program must demonstrate a broad cultural understanding of one or more foreign countries relevant to the student's area of specialization prior to advancement to candidacy. This requirement may be met by a reading knowledge of an appropriate foreign language usually determined by departmental examination or an approved selection of comparative studies (12 units post-B.A.), but the method must be approved by the student's adviser. In certain programs, a course and/or examination in statistics may be substituted for the language requirement.

For further information, consult the Department of History.

See also "The Program of Master's Degrees" in this catalog and the *Graduate Bulletin.*

HISTORY MAJOR CATEGORIES

I. INTRODUCTORY COURSES (for undergraduate students)
  A. *Survey Courses* (Lower division)
    100 Introduction to History
    101A World History to 1500
    101B World History Since 1500
    110A Western Civilization to the 17th Century

110B Western Civilization from 1648
115A * The Western Tradition: History
115B * The Western Tradition: History
120 Ancient Civilizations
140 Latin American Civilizations
150 African Civilizations
160 Introduction to Asia
165 Introduction to the Middle East
170A United States to 1877
170B United States Since 1877
180 Survey of American History

B. *Topical Courses* (Lower division)
210 Topics in World or Comparative History
220 Topics in European History
230 Topics in the History of Science and Technology
240 Topics in Latin American History
250 Topics in African History
260 Topics in Asian History
270 Topics in American History

II. INTERMEDIATE COURSES (for undergraduate and graduate students)

A. *Historical Methodology* (Upper division)
399 Historical Methodology

B. *Subject Area Courses* (Upper division)

The Ancient World
412A Ancient Near East—Mesopotamia
412B Ancient Near East—East Mediterranean
415A Classical Greece
415B Hellenistic Civilization
417A Roman Republic
417B Roman Empire

Europe
320 France in the Classical Age: 1550–1815
340 Ancient and Medieval Britain: Law and Society
341 Tudor-Stuart England
342 History of Modern England and Great Britain
400 European Social and Intellectual History to 1500
401 European Intellectual History from 1500 to the Present
410 World at War
419 The Byzantine Empire
421A History of the Christian Church to 1025
421B History of the Christian Church from 1025 to the Present
423A Medieval Europe, 300-1000
423B Medieval Europe, 1000-1300
425A The Renaissance
425B The Reformation
426 Rise of Modern Europe, 1648-1763
427 Europe in the Era of the French Revolution and Napoleon
428 19th Century Europe
429 Europe Since 1914
432 Modern Germany from the 18th Century
434A Russia to 1890
434B The Russian Revolution and the Soviet Regime
436 The Balkans
437 East Europe
438 * Cultural Heritage of Spain
439 History of Spain

* Barcelona summer session program offering

Latin America

350A Colonial Latin America
350B Republican Latin America
450 Change in Contemporary Latin America
451 The Andean Nations
452A Brazil to 1889
452B 20th-Century Brazil
453A Mexico to 1910
453B Mexico Since 1910

Africa

356 Africa to 1850
357 Africa Since 1850
455 Contemporary Africa
456 History of West Africa
458A Southern Africa to the 20th Century
458B Southern Africa in the 20th Century

East Asia

365 Art of India
460 Problems of the Contemporary Far East
461 China's Legal Tradition
462A History of China
462B History of China
462C China Since 1949
463A History of Japan
463B History of Japan
464A History of Southeast Asia to 1850
464B History of Southeast Asia, 1850–1945
464C History of Contemporary Southeast Asia
465A History of India
465B History of India
465C History of India

Middle East

368 The Arab-Israeli Conflict
369 History of Modern Israel
466A The Arab Ascendancy
466B The Mongol-Turkish Age
467 Middle East in the 19th Century
468 Middle East in the 20th Century
469 Intellectual and Cultural History of the Middle East

The United States

383 History of California
386A American Social History 1750–1860
386B American Social History 1865–1930
470 American Colonial Civilization
471 The United States From Colony to Nation
472 Jeffersonian Themes in American Society, 1800–1861
473 Democracy on Trial 1845–1877
474 The United States—1876–1914
475 America Comes of Age, 1914–1945
476 United States Since 1945
478 The History of Orange County
479 The Urbanization of American Life
480 Development of American Law
481 Westward Movement in the United States
482A History of Business in American Society
482B History of Business in American Society
483 American Religious History
484A American Constitutional History to 1865
484B American Constitutional History from 1865
485A United States Foreign Relations to 1900

485B United States Foreign Relations from 1900
486A United States Cultural History
486B United States Cultural History
487A History of Politics in American Society
487B History of Politics in American Society
488A Black American From Slavery to Jim Crow
488B Black American Since 1890
489 The Mexican-American in the Southwest

Science and Technology
430A History of Science: Ancient to Renaissance
430B History of Science: Copernicus to the Present

World or Comparative
303 Historical Dimension of Liberal Studies
405 History of the Jews
407 War and Civilization

III. ADVANCED COURSES (for undergraduate and graduate students)

A. *Seminars* (Upper division)
490 Senior Research Seminar
491 Proseminar in Special Historical Topics
492 Community History
493A Oral History
493B Oral History Processing
493C Oral History Documents
494 Special Research Techniques
495 Colloquium in History
498 History Internship

B. *Individualized Study* (Upper division)
499 Independent Study

IV. GRADUATE COURSES (for graduate students)
501 Seminar in the Content and Method of History
505 Seminar in Recent Interpretation in History
520 Seminar in European History
550 Seminar in Latin American History
560 Seminar in Afro-Asian History
570 Seminar in American History
580 Fieldwork in Oral History Administration
585 Seminar in the History of United States Foreign Relations
590 History and Historians
598 Thesis
599 Independent Graduate Research

HISTORY COURSES

100 Introduction to History (1)
Designed to introduce the new history major to his academic discipline through exposure to the following topics: the uses and significance of history; the nature of history; areas and fields of history; the language and vocabulary of history; and methods of studying history.

101A World History to 1500 (3)
The history of mankind from earliest times to 1500 A.D. Special attention is given to the definition, evolution, and interaction of the major civilizations.

101B World History Since 1500 (3)
Global history during the past four centuries, with special emphasis on the interaction between the expanding West and the non-Western areas of the world.

110A Western Civilization to the 17th Century (3)
The study of man and Western institutions from their beginnings until the middle of the 17th century.

110B Western Civilizations from 1648 (3)
The study of man and the modernization of Western Institutions from 1648 to the present.

115A The Western Tradition: History (3)
One component of a set of courses providing an integrated study of the major developments in the heritage of Western Civilization from the beginnings of Western culture to the 16th century. Concurrent enrollment in English 115A and Philosophy 115A is required.

115B The Western Tradition: History (3)
One component of a set of courses providing an integrated study of the major developments in the heritage of Western civilization from the development of the nation state to the present. Concurrent enrollment in English 115B and Philosophy 115B is required.

120 Ancient Civilizations (3)
History of the ancient Near East, classical and Hellenistic Greece and Rome. The development of art, literature, science and political and economic history.

140 Latin American Civilizations (3)
Latin America, its people, politics, and culture from the conquest of Mexico to the overthrow of Salvador Allende, with emphasis on the 20th century. Lectures combined with discussion groups, films and talks by specialists in Latin American studies.

150 African Civilizations (3)
A study of various themes of African social and cultural history, covering basic philosophies and institutions, the Nile and Niger civilizations, as well as migrations, state building, Islam, slave trade, imperialism and colonialism, nationalism and independence, and racial conflicts.

160 Introduction to Asia (3)
An introduction to the people and history of East, South and Southeast Asia from earliest times to the present.

165 Introduction to the Middle East (3)
The historical development of the Middle East from the Prophet Mohammed to the present. The Islamic religion, art, philosophy, poetry and key political conflicts of modern times.

170A United States to 1877 (3)
A survey of the political, social, economic and cultural development of the United States to 1877. Attention is given to Old World background, rise of the new nation, sectional problems, the Civil War and Reconstruction. Satisfies the state requirement in U.S. history.

170B United States Since 1877 (3)
A survey of U.S. history from the late 19th century to the present. Attention is given to economic transformation, political reform movements, social, cultural, and intellectual changes, and the role of the United States in world affairs. Satisfies the state requirement in U.S. history.

180 Survey of American History (3)
A survey of American history from prehistoric times (before 1492) to the present according to chronological time periods. Emphasis is placed upon basic themes which pervade the entire sweep of the nation's history.

210 Topics in World or Comparative History (3)
Introductory world or comparative history courses.

220 Topics in European History (3)
Introductory Euopean history courses.

230 Topics in the History of Science and Technology (3)
(Same as Technological Studies 230)

240 Topics in Latin American History (3)
Introductory Latin American history courses.

250 Topics in African History (3)
Introductory African history courses.

260 Topics in Asian History (3)
Introductory Asian history courses.

270 Topics in American History (3)
Introductory American history courses.

303 Historical Dimension of Liberal Studies (3)
An introduction to the origins and development of important modes of thought and forms of expression in the three core areas of liberal studies, the natural sciences, the social sciences, and the arts and humanities.

320 France in the Classical Age: 1550–1815 (3)
A survey of French political, economic, social and cultural systems during what this course will define "the classical age."

340 Ancient and Medieval Britain: Law and Society (3)
The history of Britain from 55 B.C. to 1485. Emphasis on the constitutional, institutional and cultural aspects of Roman, Celtic, Anglo-Saxon, Norman and Plantagenet Britain.

341 Tudor-Stuart England (3)
The history of England from the accession of Henry VII to the Glorious Revolution. Emphasis on the political, institutional, ecclesiastical and cultural aspects of the period of the Tudors and Stuarts.

342 History of Modern England and Great Britain (3)
An informational and interpretative survey of modern British history (Glorious Revolution to present). Topics include the achievement of constitutional monarchy, transition from agragarian to industrial society, establishment of political democracy and the rise of socialism.

350A Colonial Latin America (3)
A survey of the pre-Columbian cultures; the conquests by Spain and Portugal and the European background of these countries; the development of the socioeconomic, cultural, and governmental institutions in colonial life; the background of revolutions and the wars for independence.

350B Republican Latin America (3)
A survey of the Latin American republic since 1826, emphasizing the struggle for responsible government, socioeconomic, and cultural changes, and the role of U.S. foreign policy.

356 Africa to 1850 (3)
The history of tropical Africa from earliest times to the colonial era.

357 Africa Since 1850 (3)
A study of the impact of the colonial period upon the peoples of tropical Africa including a comparative analysis of the various systems of colonial administration; the factors contributing to the rise of African nationalism and the achievement of independence; and the problems encountered by these new nations.

365 Art of India (3)
(Same as Art 341)

368 The Arab-Israeli Conflict (3)
Nature and origins of the conflict between Israel and the Arab states. Includes the four major wars fought in the area, the issues which divide the two sides and diplomatic efforts as a solution to the problem.

369 History of Modern Israel (3)
Modern Israel including her relationship to the land, her institutions, her society, and the Palestinian Arabs who are within her borders. It will be necessary to examine the previous Mandate period in order to understand many modern institutions.

383 History of California (3)
A survey of the political, economic, and social history of California from the aboriginal inhabitants to the present, tracing the development of contemporary institutions and the historical background of current issues.

386A American Social History 1750–1860
A social history of the United States to the Civil War with emphasis on reform movements, temperance, moral purity, women's rights, anti-slavery, spiritualism and their importance to the formation of a modern society. (Same as American Studies 386A)

386B American Social History 1865–1930 (3)
A social history of the United States from the Civil War with emphasis on reform, social organization and values. Attention will be given to the woman's movement, censorship, divorce, the child and the limits of reform movements in an organizational society. (Same as American Studies 386B)

399 Historical Methodology (3)
A study of historical knowledge in relation to general knowledge; an introduction to the plurality of approaches in the analysis of history through the social sciences and humanities. Special emphasis will be placed upon the application of theory in historical investigations and upon forms of historical communication. Required of all majors.

400 European Social and Intellectual History to 1500 (3)
A survey of the history of ideas from Antiquity to the Renaissance. Particular attention is given to the development of western thought, its foundations in Graeco-Roman and Judao-Christian tradition and its impact on the shaping of European society and culture.

401 European Intellectual History from 1500 to the Present (3)
(Same as Technological Studies 401)
The history of the competing ideas in European history from 1500 to the present which have entered into the formation of modern European institutions.

405 History of the Jews (3)
History of the jewish people from the post-biblical period to the present. Emphasis on the literature of each period as well as the relationships which exist between the Jewish communities and the societies in which they exist.

407 War and Civilization (3)
The political and social implications of modern warfare, of the development of military technologies and of changing concepts of military organizations.

410 World War II (3)
A history of World War II based, in part, on films and documentaries. Lectures and discussion amplify the films and tapes.

412A Ancient Near East—Mesopotamia (3)
A study of the political, socioeconomic, religious, and literary history of Mesopotamian culture from the rise of the Sumerian city-states to Alexander the Great; a period of over three millennia. This will include discussion of the Sumerians, Assyrians, Babylonians, Hurrians and Persians.

412B Ancient Near East—East Mediterraneans (3)
A study of ancient Egypt from early dynastic times in the third millennium B.C. to the conquest of Alexander the Great. The history of the Syro-Palestinian region will be studied in light of its migrations and international culture. A careful study of the Hebrews and their contributions to modern civilization will be included.

415A Classical Greece (3)
A study of the civilization of ancient Greece. This course traces the rise and flourishing of the classical city-states; considerable attention is devoted to the literary and philosophic contributions to our modern civilization.

415B Hellenistic Civilization (3)
A study of the hellenistic synthesis and the new patterns in government, the arts and sciences, philosophy and literature that appeared between the Macedonian conquest and the intervention of Rome.

417A Roman Republic (3)
A study of the development of Roman social and political institutions under the republic.

417B Roman Empire (3)
A study of Roman imperial institutions and culture. Attention is also given to the rise of Christianity.

419 The Byzantine Empire (3)
An historical study of the East Roman Empire from Constantine to the Ottoman conquest of 1453. Special attention to institutional aspects of Byzantine society: church, state, the economy, law and culture.

421A History of the Christian Church to 1025 (3)
This course traces the Christian Church from its origins in the apostolic preaching through the Middle Ages in both the East and West.

421B History of the Christian Church from 1025 to the Present (3)
This course studies the western church as an institution from 1025 to the present. Orthodoxy, Catholicism and Protestantism are presented in historical perspective.

423A Medieval Europe, 300-1000 (3)
The genesis of European society from the decline of Rome to the age of the Vikings. Attention is given to the emergence of western Europe, to the barbarian migrations which culminated in the Carolingian Empire, and to Roman, Germanic and Celtic influences.

423B Medieval Europe, 1000-1400 (3)
Emphasis is placed on the history of France, and on the intellectual, artistic and scientific developments of the High Middle Ages.

425A The Renaissance (3)
The history of Europe from 1400 to 1525 with emphasis upon the beginnings of capitalism, the beginnings of the modern state, humanism, the pre-Reformation and the church on the eve of the Reformation.

425B The Reformation (3)
The history of Europe from 1525 to 1648; deals with the Protestants and Catholic Reformations; the religious wars; the price rise; royal absolution; the rise of science.

426 Rise of Modern Europe, 1648–1763 (3)
Prerequisite: History 110B. European diplomatic history and the balance of power from 1648 to 1763. Attention is given to the social and philosophical developments of the period.

427 Europe in the Era of the French Revolution and Napoleon (3)
A survey of European history from 1763 to 1815. Emphasis is placed on the politics, society, and culture of the Old Regime, the influence of the Enlightenment, the impact of the French Revolution on Europe, and the establishment of French hegemony by Napoleon.

428 19th-Century Europe (3)
Europe from 1815 to 1914. An examination of the political, economic, social, and cultural trends in European history from the Congress of Vienna to the outbreak of World War I. Special attention is given to the emerging forces of nationalism, liberalism, socialism, and secularism.

429 Europe Since 1914 (3)
Survey of events from the beginning of World War I to the present. Special emphasis given to the economic, political, social, diplomatic, and intellectual trends of 20th-century Europe.

430A History of Science: Ancient to Renaissance (3)
(Same as Technological Studies 430A)
An examination of the origin and development of western science and its role in culture from the third millennium B.C. through the beginnings of the Scientific Revolution of the 16th and 17th centuries. The hellenic, hellenistic and later medieval periods will receive special attention.

430B History of Science: Copernicus to the Present (3)
(Same as Technological Studies 430B)
A study of the development of science from the 16th century to the present. Particular emphasis will be placed on the scientific revolutions of the 17th and 20th centuries. The interaction between science, technology and culture will be discussed in some detail.

432 Modern Germany from the 18th Century (3)
A survey of German history from the era of Frederick the Great to the present.

434A Russia to 1890 (3)
An analysis of the historical developments from the establishment of the Russian state at Kiev through the great reforms, the revolutionary movement and reaction of the 19th century. Emphasis is placed upon the shaping of contemporary Russia.

434B The Russian Revolutions and the Soviet Regime (3)
An evaluation of the 1905 and 1917 revolutions and the subsequent consolidation of power under the Communist regime. Chief emphasis is placed upon the continuity and change in Russian social political, cultural institutions and foreign policy effected by the impact of Marxist-Lennist-Stalinist ideology.

436 The Balkans (3)
The Balkan peoples from the Middle Ages through the Ottoman Conquest to the present. Emphasis is placed on the role religion, nationalism, and communism have played in the development of modern Balkan consciousness.

437 East Europe (3)
The political and social history of the central East European peoples.

438 Cultural Heritage of Spain (3)
Readings and discussion in Spanish literature, arts, and philosophy. Spanish civilization from a historical background will be the general focus but specific concentration will be upon the 19th and 20th centuries. (Barcelona, Spain Program)

439 History of Spain (3)
Development of Hispanic civilization from the earliest times to the present.

450 Change in Contemporary Latin America (3)
An analysis of political, social and economic change in present-day Latin America.

451 The Andean Nations (3)
The social history of Ecuador, Peru, Bolivia and Chile.

452A Brazil to 1889 (3)
The development of Brazil from the beginning of the colonial period through the overthrow of the Brazilian monarchy in 1889. The emergence and development of a "colonial" economy and the contribution of the African, Amerindian, and Portuguese to Luso-Brazilian civilization.

452B 20th-Century Brazil (3)
The historical development of Brazil from 1889 to the present. Equal attention is given to social, economic and cultural trends and to the nation's political evolution. Approximately 40 per cent of the course focuses on Brazil after 1945.

453A Mexico to 1910 (3)
A history of Mexico from the pre-Columbian period to 1910. The course stresses the Indian heritage, the impact upon the native civilizations of the Spanish Conquest and the blending of Hispanic institutions with those of the first Mexicans.

453B Mexico Since 1910 (3)
A study of the background of the Mexican Revolution of 1910 and the revolution itself from 1910 to 1921 stressing the political, economic, and social features; special attention will be paid to the Revolution as the first of the great upheavals of the 20th century.

455 Contemporary Africa (3)
African history since 1945. Problems preceeding independence, postindependence, internal and external problems concerning economics, politics, boundaries, pan-Africanism, apartheid, racial conflicts and others.

456 History of West Africa (3)
Major themes of West African history, including development of legitimate trade and states, colonialism, nationalism and post independence achievements and problems.

458A Southern Africa from Earliest Times to the 20th Century (3)
A study of the culture and history of the indigenous peoples of southern Africa; and the development and impact of European interests in this area with particular emphasis on the history of South Africa to the Union of 1910.

458B Southern Africa in the 20th Century (3)
A survey of 20th-century developments in the Union (Republic) of South Africa, Central Africa (the Rhodesias and Nyasaland) and the Portuguese colonies with emphasis on the political, economic and social ramifications of race relations.

460 Problems of the Contemporary Far East (3)
A study of the post-World War II history of East, South and Southeast with emphasis upon problems of nationalism, communism and economic development.

461 China's Legal Tradition (3)
An analysis of traditional China's legal tradition including examination of the basic philosophic approach as evidenced by study of case law. Areas to be covered include: criminal law, jurisprudence, property rights, and rights of individuals.

462A History of China (3)
Chinese history from ancient times to the middle of the 17th century, with special attention to the development of society, thought, economy and political institutions.

462B History of China (3)
Chinese history from the middle of the 17th century to the 1950s. A study of China's internal developments and foreign intrusion, with special attention to the rise of modern Chinese nationalism and intellectual developments in the Republican period, as well as the attempts at modernization and the triumph of communism.

462C China Since 1949 (3)
History of China from 1949 to the present. A study of the Communist Party, political institutions, ideology, economic modernization and foreign relations of China.

463A History of Japan (3)
A study of the social, political, and economic history of Japan until 1868, with emphasis upon the Tokugawa era.

463B History of Japan (3)
A study emphasizing the rise of the modern Japanese state, Japanese imperialism and the postwar era.

464A History of Southeast Asia to 1850 (3)
A study of Southeast Asia since early historical times to the establishment of the colonial empires of the West in the mid-19th century.

464B History of Southeast Asia, 1850–1945 (3)
A study of Southeast Asia under the impact of the imperialism and the effects of the Pacific War on the European empires.

464C History of Contemporary Southeast Asia (3)
A study of Southeast Asia since the Pacific War to the present. Emphasis will be placed on the problems of the area and American involvement in Southeast Asia.

465A History of India (3)
A survey of the history of the Indian subcontinent from ancient times to the fall of the first Islamic empire in India, 1526. In addition to political developments, the course includes a detailed examination of evolving religious and social institutions: Hinduism, Buddhism, Jainism, class and caste.

465B History of India (3)
A survey of the history of the Indian subcontinent from the beginning of the Mughul Empire, 1526 to the Indian Mutiny of 1857. The course includes an examination of European intrusions and the crystallization of British supremacy in India.

465C History of India (3)
A survey of the history of India from 1857 to 1947 emphasizing India's struggle for independence.

466A The Arab Ascendancy (3)
Events transpiring in the Middle East from the rise of Islam to the Mongol invasions of the 13th century; the impact of Islamic civilization upon Middle East society.

466B The Mongol-Turkish Age (3)
The post-caliphal period with emphasis on the Mongol invasions of the Middle East and their effects; early modern Muslim empires—Ottoman, Safavid and Moghul—up to A.D. 1800.

467 The Middle East in the 19th Century (3)
Western penetration of the Middle East and the reaction to it, modernization, the growth of nationalist movements and revolutionary disturbances ending with World War I.

468 Middle East in the 20th Century (3)
Social, political and economic changes in the Middle East since World War I. Particular emphasis on the period after World War II and recent independence movements.

469 Intellectual and Cultural History of the Middle East (3)
Major Muslim achievements in the social and natural sciences belles-lettres, theology and philosophy, art and architecture from the advent of Islam to the 20th century.

470 American Colonial Civilization (3)
Prerequisite: History 170A or consent of instructor. This course analyzes the creation of societies in English North America from 1607–1754, stressing the emergence of economic, social and political patterns and structures in a maturing Anglo-American culture.

471 The United States from Colony to Nation (3)
Prerequisite: History 170A or consent of instructor. This course analyzes and describes the social, economic, political and intellectual developments in 18th century America, stressing the Anglo-American imperial problems leading to the revolution, the origins of American nationalism, the social structure of the new nation, the formation of the Constitution and the rise of a party system.

472 Jeffersonian Themes in American Society, 1800–1861 (3)
Prerequisite: History 170A or consent of instructor Analyzes Jeffersonian values and their impact upon the social, political and cultural life of the nation during the era of their greatest relevance.

473 Democracy on Trial 1845–1877 (3)
Prerequisite: History 170A or consent of instructor. The study of America's "great national crisis" and the impact of slavery, civil war and national reconstruction upon the democratic process of the republic.

474 The United States 1876–1914 (3)
(Same as Technological Studies 474)
The organization of American industry and its impact upon American life. Special consideration is given to the populist and progressive reform movements.

475 America Comes of Age, 1914–1945 (3)
A multi-topic analysis of major trends in U.S. domestic policy, foreign policy, economy and soceity from World War I through World War II. Course will concentrate on conflicting values and ideals of domestic policy and U.S. role in world affairs.

476 United States Since 1945 (3)
(Same as Technological Studies 476)
Multi-topic analysis of U.S. History from 1945 to the present stressing the interrelationship of foreign policy, economic prosperity, deomestic tensions and protest movements.

478 The History of Orange County (3)
The history of Orange County, with special stress on the process of urbanization.

479 The Urbanization of American Life (3)
(Same as Technological Studies 479)
The historical development of urban life in America with special emphasis on the colonial town, the western town and the industrial city.

480 Development of American Law (3)
Prerequisite: History 170A or 170B. A survey of the development of selected areas of American law with emphasis upon contracts, property, commercial law, criminal law, corporations, torts, civil procedure and the legal profession.

481 Westward Movement in the United States (3)
A survey of the expansion of the United States population and sovereignty from the eastern seaboard to the Pacific, colonial times to 1900, and a history of regional development during the frontier period.

482A History of Business in American Society (3)
The course explores the interaction of social and economic factors upon each other in the development of American society. Special attention is given to the role of business and labor in economic change. The first semester covers the development of a colonial economy and the early national economy.

482B History of Business in American Society (3)
The course continues to explore the interaction of social and economic factors upon each other in the development of American society beginning with the "takeoff stage of economic development" and ending with contemporary America. Special attention is given to the role of business and labor in economic change.

483 American Religious History (3)
Prerequisite: upper division standing. The vitality and creativity of American religious life and the proliferation of religious organizations as the result of the transplanting of European Christianity and its modification in the new environment.

484A American Constitutional History to 1865 (3)
Prerequisite: History 170A, English and colonial origins, the growth of democracy, the slavery controversy, and the sectional conflict as they reflect constitutional development.

484B American Constitutional History from 1865 (3)
Prerequisite: History 170B. Constitutional problems involved in the post-Civil War era, the expansion of business, World War I, the New Deal, World War II, and civil rights in the postwar era.

485A United States Foreign Relations to 1900 (3)
A comprehensive survey of the foreign relations of the United States from the beginning of the nation until 1900. Particular attention is given to bases of policy, critical evaluation of major policies and relationships between domestic affairs and foreign policy.

485B United States Foreign Relations from 1900 (3)
Relations from 1900 to the present. An analysis of the rise of the United States as a world power in the 20th century with special emphasis on the search for world order and the diplomacy of the atomic age.

486A United States Cultural History (3)
A study of the social and intellectual development of the United States from the Puritans to the Civil War.

486B United States Cultural History (3)
A study of the social and intellectual development of the United States from the Civil War to the present.

487A History of Politics in American Society (3)
This course traces political developments from the Colonial Period to the end of the Civil War. Its primary focus is upon political patterns of behavior, institutional development and the response of the American political system to changing social demands and needs.

487B History of Politics in American Society (3)
This course traces political developments from Reconstruction to Lyndon Baines Johnson. Its primary focus is upon political patterns of behavior, institutional development and the response of the political system to changing societal demands and needs.

488A Black American From Slavery to Jim Crow (3)
A history of black Americans from African backgrounds through the era of slavery and the Civil War to the post-Reconstruction era.

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488B Black American Since 1890 (3)
History of black Americans from Booker T. Washington to present, stressing both their culture and role in American life and the issues involved in their relations with other segments of the population in various regions.

489 The Mexican-American in the Southwest (3)
Historical role of the Mexican-American in the Southwest stressing the cultural uniqueness, contributions, with special emphasis upon migration, education, and economic changes since 1945.

490 Senior Research Seminar (3)
(Same as Technological Studies 490)
Directed research seminar with class discussions applied to specific topics and areas as schedule and staff allow. Designed to give students experience in original research and writing. Required of all history majors. Various topics may be repeated for credit.

491 Proseminar in Special Historical Topics (3)
Intensive study of trends, phenomena, themes or periods of history involving occasional lecture, discussion, directed reading, and student research.

492 Community History (3)
A study of the historical development of communities in general, and of the Orange County area in particular. Special emphasis on techniques of gathering and processing local historical data, including oral interviews and other archival materials.

493A Oral History (3)
The utilization of tape recorded interviews to document significant events in 20th-century history. Training will be given in interviewing techniques, specific background research and equipment use, after which students will conduct a number of tape recorded interviews.

493B Oral History Processing (3)
Prerequisite: consent of instructor. Specialized techniques required for processing oral historical documents including oral interviews and other archival materials.

493C Oral History Documents (3)
Prerequisite: consent of instructor. Special skills necessary to undertake historical research from oral documentation. Students will be required to translate their knowledge into appropriate oral history research projects.

495 Colloquium in History (3)
Interpretation and analysis of significant documents and works of history aimed at broad synthesis and mastery of major interpretations in an area. Involves extensive directed reading and discussion. Themes will vary according to instructor.

498 History Internship (3)
The internship program offers work experience related to the history academic program or to areas of public and private employment where any liberal arts major is appropriate.

499 Independent Study (1-3)
Open to advanced students in history with consent of department chair. May be repeated for credit.

501 Seminar in the Content and Method of History (3)
Prerequisite: consent of instructor.

505 Seminar in Recent Interpretations in History (3)
Prerequisite: consent of the instructor.

520 Seminar in European History (3)
Prerequisite: consent of the instructor.

550 Seminar in Latin American History (3)
Prerequisite: consent of the instructor.

560 Seminar in Afro-Asian History (3)
Prerequisite: consent of the instructor.

570 Seminar in American History (3)
Prerequisite: consent of the instructor.

580 Fieldwork in Oral History Administration (3)
Prerequisites: Hist 493 A,B,C, graduate standing or consent of instructor. Students will serve as directors of projects in the Oral History Program or as staff officers thereof. In this capacity they will receive practical experience in administering an oral history program.

585 Seminar in the History of United States Foreign Relations (3)
Prerequisite: consent of the instructor.

590 History and Historians (3)
Prerequisite: consent of instructor. A study of the writings, personalities, and philosophies of representative historians from Herodotus to the present.
598 Thesis (3 or 6)
Prerequisite: consent of instructor. May be repeated for credit.
599 Independent Graduate Research (1-3)
Open to graduate students in history with consent of department chair. May be repeated for credit.

LATIN AMERICAN STUDIES PROGRAM

FACULTY
Sheldon Maram
Program Coordinator
PROGRAM COUNCIL
Oswaldo Arana (Foreign Languages), Nancy Baden (Foreign Languages), Warren Beck (History), Harvey Blend (Physics), Isaac Cardenas (Chicano Studies), James Dietz (Economics), Thomas Flickema (History), Dagobert Fuentes (Chicano Studies), Ron Harmon (Foreign Languages), Arturo Jasso (Foreign Languages), Leroy Joesink-Mandeville (Anthropology), Paul Kane (Education), William J. Ketteringham (Geography), Jackie Kiraithe (Foreign Languages), Martin Klein (Communications), John Lafky (Economics), Neil Maloney (Earth Science), Lon McClanahan (Biological Science), Adolfo Ortega (Chicano Studies), Joseph Platt (Chicano Studies), John Purcell (Political Science), Marlene de Rios (Anthropology), Gerald Rosen (Sociology), Edgar Wiley (Management), Jon Yinger (Political Science).

BACHELOR OF ARTS IN LATIN AMERICAN STUDIES

The Latin American studies program is designed for students desiring a general education with specific focus on Latin America. Students planning careers which will involve residence in, or a knowledge of Latin America (such as teaching, business, government, scientific research, engineering, or journalism) will profit immensely from this program. Moreover, the program provides a sound base for students who will teach Spanish or the social sciences in the secondary schools. The program also prepares the student for graduate work in Latin American studies or in other disciplines involving a specialization in Latin America.

Teachers

The Latin American studies program has been approved for the multiple subject waiver, under provisions of the Ryan Act.

Foundation Courses

All students should develop a language proficiency level which is the equivalent of Spanish 204 and Portuguese 102.

Students with no language background should take:
Spanish 101 Fundamental Spanish (5)
Spanish 102 Fundamental Spanish (5)
Spanish 203 Intermediate Spanish (3)
Spanish 204 Intermediate Spanish (3)
Portuguese 101 Fundamental Portuguese (4)
Portuguese 102 Fundamental Portuguese (4)

However, a student with a knowledge of Spanish and/or Portuguese may be able to meet part or all of the foundation course requirements by taking a test administered by the Department of Foreign Languages and Literatures.

Required Core Courses (12 units)

Language (3 units):
Spanish 317 *or* 318 Advanced Conversation and Composition (3) (318 is designed for bilingual students) *or either*
Portuguese 317 *or* 318 Advanced Conversation and Composition (3)

Literature (3 units):
Spanish 441 Spanish American Literature from Modernismo to Present (3) *or*
Portuguese 441 Brazilian Literature (3)

History and Culture (9 units):
Spanish 316 Introduction to Spanish American Civilization (3) *or*
Portuguese 325 Contemporary Brazilian Civilization (3)

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History 350A Colonial Latin America (3)
History 350B Republican Latin America (3)

Recommended Selected Concentrations

Fifteen units selected from three or more of the following groupings:

I. Culture:

Portuguese 315 Introduction to Luzo Brazilian Culture and Civilization (3)
Portuguese 317 or 318 Advanced Conversation and Composition (3) *or*
Spanish 317 Advanced Conversation and Composition (3)
Portuguese 325 Contemporary Brazilian Civilization (3) *or*
Spanish 316 Introduction to Spanish American Civilization (3)
Anthropology 322 Peoples of Mesoamerica (3)
Anthropology 324A The Ancient Maya (3)
Anthropology 324B Prehistory of Northern Mesoamerica (3)
Anthropology 325 Peoples of South America (3)
Anthropology 326 Prehistory of South America (3)

II. Fine Arts and Literature:

Portuguese 441 Brazilian Literature (3) *or*
Spanish 441 Spanish American Literature from Modernismo to the Present (3)
Spanish 440 Spanish American Literature from the Conquest to 1888 (3)
Spanish 466 Introduction to Spanish Linguistics (3)
Spanish 485 Senior Seminar: Hispanic topics (3) (with consent of program director)

III. History and Politics:

History 450 Change in Contemporary Latin America (3)
History 451 The Andean Nations (3)
History 452A Brazil to 1889 (3)
History 452B 20th-Century Brazil (3)
History 453A Mexico to 1910 (3)
History 453B Mexico since 1910 (3)
Political Science 431 Government and Politics of Latin America (3)
Political Science 452 Latin American Foreign Policies (3)

IV. Geography and Economics

Geography 333 Geography of Latin America (3)
Geography 433 Man and Geographic Relationships in Latin America (3)
Economics 330 Comparative Economic Systems (3);
Economics 333 Economic Development: Analyses and Case Studies (3)

V. Senior Seminar:

Latin American Studies 401 Contemporary Latin America (3)

LATIN AMERICAN STUDIES COURSES

100 Introduction to Latin America (3)

A team-taught introductory course on topics relevant to contemporary Latin America which uses an interdisciplinary approach. Core areas will include man, environment, society, instituitons and culture. The exact content will vary depending upon the faculty and existing conditions within Latin America.

401 Contemporary Latin America (3)

An interdisciplinary team-taught senior seminar on topics relevant to contemporary Latin America. The exact content of the course will vary depending upon the faculty and present conditions within Latin America. May be repeated for credit.

LIBERAL STUDIES PROGRAM

FACULTY

Ronald Clapper
Acting Program Coordinator

PROGRAM COUNCIL

Ronald Clapper, Chair, Gloria Atayde (Student), Leland Bellot (Dean of the School of Humanities and Social Sciences), Dennis Berg (Director of Academic Advisement), John Bermingham

(student), Bert Buzan (Political Science), Ronald Crowley (Physics), Naomi Dietz (Art), Gerald Gannon (Mathematics), Betty Haven (Criminal Justice), Teresa Hynes (Communications), Carl Jackson (Afro-Ethnic Studies), Helen Jaskoski (English), Emmett Long (Speech Communication), Karen Lystra (American Studies), Sallie Mitchell (Theatre), June Pollak (English), Gloria Rock (Philosophy), William Shea (student), Eric Streitberger (Science Education), Curtis Swanson (Foreign Languages and Literature), Michael Tang (Liberal Studies), Bruce Weber (Chemistry), Charles Williams (Science Education), James Woodward (History), _____ _____ (Sociology).

BACHELOR OF ARTS IN LIBERAL STUDIES

The B.A. in Liberal Studies is an interdisciplinary program designed for students with diverse interests who feel that a specialized major is inappropriate for the kind of university experience they would like to achieve. The program is designed to help students synthesize and integrate their knowledge and experience by focusing on a meaningful problem, issue, or theme that is broad in scope and cuts across the traditional lines of the academic disciplines. The 48 units required for the liberal studies major are distributed in three major phases.

1. **The Liberal Studies Core Courses (18 units)**
   The liberal studies core courses build a foundation for interdisciplinary study by providing the student with an overview of the major areas of human knowledge and an introduction to the basic methodologies of interdisciplinary study. All majors are required to take each of the following courses:
   History 303 Historical Dimension of Liberal Studies (3)
   Philosophy 304 Methods of Inquiry (3)
   Speech Communication 305 Liberal Studies in Communication Processes (3)
   Liberal Studies 306 Liberal Studies in the Humanities and Arts (3)
   Liberal Studies 307 Liberal Studies in the Sciences (3)
   Liberal Studies 308 Liberal Studies in the Social Sciences (3)
2. **The Personalized Coordinated Program (24 units)**
   Each student applies the basic methodologies learned in the core courses by pursuing an interdisciplinary problem, issue, or theme of special interest to him/her. The personalized coordinated program consists of 24 units of upper-division courses which the student, in consultation with an adviser, selects from the university's current offerings to further his/her knowledge in the area of the chosen problem, issue or theme. Up to three units of an approved internship may be included. To insure breadth of knowledge, the student is required to select at least two courses from each of the three areas of human knowledge—the humanities and arts, the sciences and the social sciences. Students must have their study plans approved by a liberal studies adviser prior to taking coursework in the personalized coordinated program.
3. **The Thesis Sequence (6 units)**
   The thesis sequence, taken in the senior year, is designed to help the student plan and produce a major project, thesis, or creative work based on the knowledge he/she has gained from the courses taken in the personalized coordinated program. The practicum, seminar and independent study are minicourses, which the student takes in the following sequence:

First Semester, Senior Year

Segment I (the first five weeks of the semester):
Liberal Studies 480 Practicum in Liberal Studies (1)
The student plans a project, thesis or creative work.
Segments II & III (the last 10 weeks of the semester):
499 Independent Study (2)
The student engages in research for the project, thesis, or creative work under the supervision of an instructor of his/her own choice in a department other than liberal studies.

Second Semester, Senior Year

Segments I & II (the first 10 weeks of the semester):
499 Independent Study (2)
The student completes the project, thesis, or creative work to the satisfaction of the supervising instructor.
Segment III (the last five weeks of the semester):
Liberal Studies 490 Seminar in Liberal Studies (1)
The student presents and defends the project, thesis or creative work developed in 499.

139 9 1 615

MULTIPLE SUBJECTS CREDENTIAL WAIVER PROGRAM

The liberal studies program has been granted a waiver right by the Commission for Teacher Preparation and Licensing which means that liberal studies majors, providing they follow an acceptable program of courses, can be granted the multiple subject (elementary) credential without having to take the state examination otherwise required by the Ryan Act. To insure that the credential candidate graduates with the knowledge and skills demanded of a prospective elementary teacher, the Liberal Studies Multiple Subjects Credential Waiver Program follows the scope and content of the General Subjects Examination approved by the Commission for Teacher Preparation and Licensing.

ADVISEMENT

Students are urged to see a program adviser prior to their first semester at the university as a liberal studies major. This is particularly important for community college transfers since failure to do so may delay graduation. Majors and community college students planning to transfer to Cal State Fullerton should obtain a Liberal Studies Handbook from the program office. The handbook describes the program in detail and recommends general education courses that will best prepare the student for the major.

LIBERAL STUDIES COURSES

306 Liberal Studies in the Humanities and Arts (3)

Prerequisite: completion of arts-humanities general education requirement. An interdisciplinary course which examines the nature of the arts and humanities, their purposes and structure, sources and traditional forms. Some contemporary social issues and some aspects of aesthetics will be discussed.

307 Liberal Studies in the Sciences (3)

Prerequisite: completion of natural sciences general education requirement. An interdisciplinary approach to the sciences concentrating on: man's niche in the cosmos; nature of the scientific enterprise; contemporary models in physical and biological sciences; and the role of science in society.

308 Liberal Studies in the Social Sciences (3)

Prerequisite: completion of social sciences general education requirement. An interdisciplinary course which examines the theoretical frameworks of the social sciences and their methodologies by focusing on a cluster of social problems from the various viewpoints of the different social sciences.

480 Practicum in Liberal Studies (1)

Prerequisites: completion of the liberal studies core courses and 12 units of the personalized coordinated program. Preparation for a major independent scholarly research project, creative work or theoretical exploration of personal interest.

490 Seminar in Liberal Studies (1)

Prerequisite: completion of Liberal Studies 480, 18 units of the personalized coordinated program, and four units of 499 in a department other than liberal studies. The capstone seminar involves the presentation and defense of the scholarly work developed in 499.

DIVISION OF LIBRARY SCIENCE

FACULTY

Doris Banks
Division Director

Al Baker, Dorothy Currie, Chester Gough, Joseph Palmer, Naimuddin Qureshi, Taverekere Srikantaiah (Kanti), William Truesdell

PART-TIME

Harriett Covey, Herbert Hoffman, Carolyn Johnson, Ruth Nycum, Harry Rowe, Doris Sadoski, Shirley Woods

MASTER OF SCIENCE IN LIBRARY SCIENCE *

The Division of Library Science provides graduate education for librarianship with a primary focus

* No new students are being accepted for the degree of Master of Science in Library Science. No classes in library science will be offered after June, 1979.

on the basic principles of library service. The program encompasses a coordinated plan of graduate studies, which emphasizes the foundations of library science together with a specialization such as school, public, academic and special librarianship. These studies provide background for employment as librarian as well as serve for incentive for further intellectual growth and as preparation for further academic work.

Prerequisites

An applicant must meet the university requirements for admission in conditionally classified graduate standing: a baccalaureate degree from an accredited institution and a grade-point average of at least 2.5 in the last 60 semester units attempted (see section of this catalog on admission of graduates for complete statement and procedures).

A student who meets the requirements for conditionally classified graduate standing, as well as the following requirements, may be admitted as a classified graduate upon the development of an approved study plan: (1) an academic major or equivalent; (2) completion of one year's employment in a library with responsibilities satisfactory to the advisers or successful completion of the upper division course, Library Science 400, Introduction to Bibliographic Research, or its equivalent; (3) satisfactory performance on the aptitude test of the Graduate Record Examination; (4) letters of recommendation from two qualified persons; and (5) satisfactorily complete an interview.

Study Plan

The Master of Science in Library Science requires a minimum of 24 units of approved graduate work in library science plus six units of approved work for graduate credit in an area of concentrated study and either completion and acceptance by the faculty of the Division of Library Science of a written thesis, a project, or successful performance in a comprehensive examination.

Six units of required study shall be seminars on library topics, such as indexing and abstracting, theories of bibliographic control, information systems, and six units shall be electives in an area of concentration.

Prior to completion of the degree program the student will be required to present evidence of the equivalent of two years' study in foreign languages to be demonstrated by one of the following: (1) passing of the foreign language examination administered by the division; (2) successful completion of two years (four semesters) college level foreign language study or its equivalent (one year of high school foreign language equals one semester of college foreign language). Special consideration will be granted students who have lived in a foreign country or for whom English is a second language. The student will also be expected to demonstrate proficiency in basic computer programming and applications, either by evidence of completion of a course such as Quantitative Methods 265, Computer Programming and Applications, or Quantitative Methods 289, Computer Science for the Social Sciences or by passing an examination.

Each student will develop an individual program of studies in consultation with an adviser from the Division of Library Science.

See also "The Program of Master's Degrees" in this catalog and the *Graduate Bulletin.*

School Librarianship Specialization

Students intending to become librarians in the public school system will need a standard teaching credential.

The courses for the credential program and the foundation courses for the M.S.L.S. are Library Science 500, 501, 502, 503 and 504. The addition of three units in multimedia or instructional materials such as Library Science 540, 541 or 525 and six units of electives such as Library Science 537, selection and use of materials for children and young adults, Comparative Literature 314, The Oral Tradition in Literature, and English 433, Children's Literature, and 90 hours of supervised fieldwork in the school library would meet the requirements for specialized preparation applicable to the standard teaching credentials. This will authorize a teacher to serve as a school librarian. The minimum coursework required for the specialized preparation is 24 units and the minimum for the master's degree with a specialization in school librarianship is 30 units.

LIBRARY SCIENCE COURSES

314 The Oral Tradition in Literature (3)
(Same as Comparative Literature 314)

400 Introduction to Bibliographic Research (3)
A study of literature searching for advanced research problems including bibliographic form and documentation. Exploitation of the information content of library card catalogs, trade bibliographies, indexes, abstracts and reference literature. Abstracting, annotating and critical reviewing are touched. Should be taken in first semester after entrance into the program.

449 Fieldwork School Libraries (2)
Prerequisite: Completion of or concurrent enrollment in all of the 24 units required for the credential. Consists of 90 hours of field experience in a school library or media center supervised by a credentialed librarian. Enrollment requires preliminary filing and approval.

500 Principles of Librarianship (3)
Prerequisite: graduate standing, completion of or concurrent enrollment in Library Science 400, or consent of instructor. Consideration of libraries in contemporary society. History of libraries, development of objectives of library service, identification and definition of user communities and their needs, survey of professional associations, interrelationships within library organization.

501 Library Collection Development (3)
The principles of a library acquisitions program developed from an examination of methods of bibliographic control. Publishers and publishing and other factors of the book trade and their influence on the development of an efficient order department.

502 Organization and Operation of Libraries (3)
Prerequisites: Library Science 400 and 500. An introduction to administrative theories and principles and their implications and applications to managerial activities in all kinds of libraries.

503 Organization of Information for Retrieval (3)
Theory and principles of classification, indexing, subject headings and cataloging and a survey of systems for storing and retrieving information. Preferred to be taken concurrently with Library Science 504 as early as possible in the study plan. (2 hours lecture, 2 hours activity)

504 Theories of Readers' Services (3)
A study of the history, theory and principles of reference service and information retrieval, of national and trade bibliographical tools, and of specialized reference tools; the identification of requesters' needs, and the analysis of research techniques in special subject areas. (2 hours lecture, 2 hours activity)

505 Research in Librarianship (3)
Prerequisites: Library Science 400, three of the 500-level required courses. The scientific method and social science research methodology applied to library and information problems, focusing on library research and its accomplishments and evaluations of current research activities.

520 Seminar on Systems Analysis in Libraries (3)
Prerequisite: Library Science 500 or consent of instructor. Analytical techniques drawn from systems analysis and industrial engineering applied to technical processing, circulation control, acquisitions and the development of library service models.

521 Seminar on Information Systems (3)
Prerequisite: Library Science 500 or consent of instructor. Examination of information systems in business and corporate, scientific and governmental applications. Designs of local, national and international services are developed in theoretical models according to measured needs.

523 Seminar on Indexing and Abstracting (3)
Prerequisite: Library Science 503 or consent of instructor. Investigation of the theoretical and functional aspects of the approaches to the sources of information by individual research efforts in various fields. Current practices of commercial, governmental and society sponsored programs.

524 Seminar on Theories of Bibliographic Control (3)
Prerequisites: Library Science 503 and 504 or consent of instructor. Studies in the theoretical bases of systems for the organization and retrieval of information in all forms.

525 Seminar on Information and Instructional Materials (3)
Prerequisites: Library Science 500 and 501 or consent of instructor. Focuses on organizing and implementing media programs of wide application. Special attention to problems, organization of materials, physical environment, federal support programs and modern technology. Includes field trips to outstanding media centers in the area.

526 Seminar on Selected Topics (3)
Prerequisite: graduate standing or consent of instructor. Discussion of contemporary issues in library service such as libraries of the future, library service for the disadvantaged, intellectual freedom.

Topics chosen will be described and announced to library science majors and in local library associations and institutions. May be repeated.

527 Seminar on Library and Society (3)

Prerequisite: Library Science 500 or consent of instructor. Task oriented group case study involving the investigation of one library's structure and its relationship with its clientele. The focus is on group process, an analog for professional study group and committee action.

530 Introduction to Information Science (3)

Basic introduction to the nature of information science and technology. Fundamental concepts of information handling; analysis and design of information systems; evaluation of retrieval effectiveness in library systems.

531 Data Processing for Library Applications (3)

Prerequisite: graduate standing. The devices and methods of the technology of data processing applied to particular library functions with a management system approach underlined throughout. The management and planning of automation projects is stressed.

532 History of Libraries and Information Media (3)

Prerequisite: graduate standing. Historical survey of the formation of libraries, from the beginnings in the archival collections of ancient Mesopotamia. The varieties of books, records and documents which have constituted library collections, and the varying importance of libraries in succeeding ages.

533 Non-Book Information Handling (3)

Prerequisites: Library Science 503 and 504 or consent of instructor. The selection, cataloging, retrieval and use of the many types of documents, films, recordings and other forms of printed and produced information carriers in the various library service entities. Both alphabetic and coded information sources are considered.

536 Scientific and Technical Information (3)

Observation and evaluation of current techniques in special libraries for obtaining, announcing and distributing printed, near-print and non-printed materials. Development of a model system for improved information services.

537 Selection and Use of Materials for Children and Young Adults (3)

The examination of selection aids used to evaluate print and non-print materials, the construction of collection objectives and selection policies, and the development of programs and services for young people.

538 History of Books and Printing (3)

Historical survey of the many written communication devices. North American picture writing, Mesopotamian clay tablets, wax tablets, leather and papyrus books of the classical world through medieval manuscripts to modern phototypesetting and photo-offset.

539 Library Problems: Selected Topics (3)

A course concerned with the role of the library/media center in contemporary education. It consists of a survey of current literature which requires regular class participation, following a structure to be established by the class.

540 Development of Prototype Material (3)

A course designed as an overview for persons that will be involved in the assessment, evaluation, production and use of various media used in instruction. The course is concerned with the process of message design, media choice, and production.

541 Principles of Library Instructional Media (3)

Prerequisite: Library Science 540. The principles of mediated materials in libraries for individual use and for classroom instruction. Selection, evaluation, and use of mediated materials with emphasis on media characteristics and behavioral objectives as they relate to information retrieval.

550 Literature of Selected Subjects (3)

Prerequisites: Library Science 400 or equivalent and 504. A study of the information resources including reference aids in various distinct fields of knowledge, such as humanities, social sciences, maps, law. May be repeated.

551 Legal Bibliography (3)

The fundamentals of legal bibliography along with a brief survey of the various law libraries and their collections to provide acquaintance with the information resources in law.

574 Problems in Government Documents Information (3)

Examination and use of the official publications of the United States, international organizations and Great Britain. Includes discussion of acquisition, organization and reference use of these publications.

153 9 2 45

596 Library Science Internship (2–3)
Prerequisites: Library Science 501, 502, 503, 504. An opportunity to gain professional experience through rotating assignments or through the completion of a special study at a selected cooperating library. Requires 90 or 135 hours per term for 2 or 3 units credit.

597 Project (3)
Prerequisite: graduate standing and consent of division director. Preparation and completion of an approved project.

598 Thesis (3)
Prerequisite: graduate standing and consent of division director. The writing of a thesis based on original research, library study or an educational project, and its analysis and evaluation.

599 Independent Graduate Research (1-3)
Prerequisite: graduate standing and consent of division director. May be repeated for credit.

749 Fieldwork School Libraries (2)
Prerequisite: completion of or concurrent enrollment in all of the 24 units required for the credential. Consists of 90 hours of field experience in a school library or media center supervised by a credentialed librarian. Enrollment requires preliminary filing and approval.

DEPARTMENT OF LINGUISTICS

FACULTY
James Santucci
Department Chair

Alan Kaye, Donald Sears, Ernie Smith

Linguistics is the scientific study of language—its nature and development, its universal properties, its diversified structures and their variants, its systems of writing and transcription, its cultural role in the speech community, and its application to other areas of human knowledge. As such, it is concerned with the multiple aspects of human communicative behavior which encompasses thought, symbolization, language, meaning, acoustics, perception and the physiological processes of utterance and audition.

The interdisciplinary aspects of this study are reflected in the organization of the program which offers a core of general linguistics courses and draws upon linguistically-related courses in other departments.

BACHELOR OF ARTS IN LINGUISTICS

This program is designed for students with an exceptional interest in and aptitude for the study of the systems of human communication. It enables the undergraduate student to understand the essential relationships between language and thought and language and culture; to gain familiarity with the structure of foreign languages as well as English; to observe several types of linguistic structures; and to become conversant with the historical study of language and formal techniques and theoretical foundations of linguistic analysis. The program will enable the student with linguistic and philological interests to grasp the scope of the field and to determine more accurately the most meaningful concentrations in graduate study.

Language Requirement

Two progressive semesters of any two languages or four progressive semesters of any one language.

Lower Division Requirements ..... 9 units
Linguistics 106 Language and Linguistics (3)
Any *two* 200-level linguistics courses (6)

Upper Division Requirements ..... 24 units
Linguistics 351 Introduction to Linguistic Phonetics and Phonology (3)
Linguistics 406 Descriptive Linguistics (3)
Linguistics 410 Language and Culture (3)
Linguistics 430 Introduction to Historical Linguistics (3)

Four electives *two* of which must be from linguistics upper division courses:
Linguistics, any upper division course other than those listed as required above
Education-TE 312 Human Growth and Development (3)
English 303 Structure of Modern English (3)
English 480 Seminar in Old English (3)
English 490 History of the English Language (3)

Foreign Languages, any upper division course (3)
Mathematics 304 Mathematical Logic (3)
Mathematics 305 Elements of Set Theory (3)
Philosophy 368 Symbolic Logic (3)
Philosophy 475 Seminar in the Philosophy of Language (3)
Physics 405 Acoustics (4)
Psychology 415 Cognitive Processes (3)
Quantitative Methods 364 Computer Logic and Programming (3)
Quantitative Methods 486 Automata Theory (3)
Quantitative Methods 487 Artificial Intelligence (3)
Speech Communication 304 Message Reception and Analysis (3)
Speech Communication 340 Speech Science (3)

Students must consult with an adviser in linguistics before establishing their individual programs of study. Other courses in the university may be taken as an elective with the permission of the adviser.

MASTER OF ARTS IN LINGUISTICS

The M.A. in Linguistics is designed for students who have exceptional interest in and aptitude for the study of the systems of human communication, reinforced by undergraduate study in linguistics and allied areas, such as foreign languages, English language, anthropology, speech communication and related areas in psychology and philosophy. It enables the graduate student to study in depth the position and function of human communication systems in the development of civilization; to understand more fully the essential relationships between thought, language and culture; to deepen mastery of the structure of foreign languages as well as English; to work intensively with several types of linguistic structures with special attention to non-Indo-European languages; and to increase expertise in the historical study of language and formal techniques and theoretical foundations of linguistic analysis.

The core courses of the program are devoted to an in-depth consideration of descriptive, historical and applied linguistics. The remainder of the program combines advanced work in the theory of phonological; morphological and syntactical analysis; articulatory and experimental phonetics; semantics; lexicology; dialectology; language typology; and field methods, in which the procedures of the linguist working under field conditions are demonstrated by the analysis of several languages elicited from informants. A variety of approaches to descriptive analysis and several theoretical points of view including generative grammar, transformational analysis and prosodics are presented. A series of courses on the structure of individual languages, both ancient and modern, provides opportunities for applying the general principles of structural analysis and for establishing linguistic data by elicitation from informants and analysis of written records. General courses in comparative linguistics and comparison within individual language families review methods of establishing genetic relationship among languages. The geographical diffusion of linguistic features and problems of language contact are studied by examining areal groupings of genetically unrelated languages. The relationship between linguistics and other disciplines and the application of the techniques, findings, and insights of that science to such activities as language teaching are treated in interdisciplinary courses and seminars.

The aim of the graduate program in linguistics is to provide thorough and well-balanced training for practice and research in the several areas of linguistic studies and to prepare qualified students for careers in the communication sciences and allied disciplines.

Admission to Graduate Standing: Conditionally Classified

An applicant must meet the university requirements for admission in conditionally classified graduate standing: a baccalaureate degree from an accredited institution and a grade-point average of at least 2.5 in the last 60 semester units attempted (see section of this catalog on admission of graduates for complete statement and procedures).

Admission to Graduate Standing: Classified

A student who meets the requirements for conditionally classified graduate standing, as well as the following requirements, may be admitted as a classified graduate upon the development of an approved study plan: a major in linguistics consisting of 24

upper-division semester credit hours, or equivalent, in the field, with grades testifying to above-average scholarship. Those having degrees with other related majors may be admitted if they have completed the following courses or their equivalents. These prerequisites may be fulfilled concurrently with graduate coursework in the program.

Linguistics 351 Introduction to Linguistic Phonetics and Phonology (3)
Linguistics 406 Descriptive Linguistics (3)
Linguistics 410 Language and Culture (3)
Linguistics 430 Introduction to Historical Linguistics (3)

Knowledge of one foreign language is required (equivalent of FL 317 course). Students without coursework in a foreign language may demonstrate proficiency by a score of average or better on the MLA-ETS Proficiency Examination for Advanced Students. Work toward fulfillment of this requirement may be taken concurrently with graduate work in linguistics.

Modifications of certain prerequisite requirements may be permitted in exceptional circumstances.

Study Plan Course Requirements *Units*

Coursework in descriptive and historical linguistics 13
Linguistics 501 Research Methods and Bibliography (1)
Linguistics 505 Phonological Analysis (3)
Linguistics 507 Grammatical Analysis (3)
Linguistics 508 Theories of Syntax (3)
Linguistics 530 Historical Linguistics (3)

Coursework selected from any one of the following six areas of subspecialization, including other courses in the university with the approval of the adviser..... 9

Applied Linguistics

English 302 Introduction to English Language (3)
English 303 The Structure of Modern English (3)
English 570 Graduate Seminar: Language Studies (3)
Foreign Languages Ed 520, Advanced Seminar in Applied Linguistics (3)
French 466 Introduction to French Linguistics (3)
French 599 Independent Graduate Research (1–3)
German 466 Introduction to German Linguistics (3)
German 599 Independent Graduate Research (1–3)
Linguistics 305 American Dialects (3)
Linguistics 403 Speech and Language Development (3)
Linguistics 409 Anthropological Linguistics (3)
Linguistics 411 Bilingualism (3)
Linguistics 412 Sociolinguistics (3)
Linguistics 443 Principles of Teaching English to Speakers of Other Languages (3)
Linguistics 529 Graduate Seminar: Linguistic Ontogeny (3)
Linguistics 565 Graduate Seminar: Major Language Families (3)
Linguistics 575 Graduate Seminar: Current Issues in Linguistics (3)
Linguistics 596 Internship in Applied Linguistics (3)
Linguistics 599 Independent Graduate Research (1–3)
Spanish 466 Introduction to Spanish Linguistics (3)
Spanish 467 Dialectology: Current Trends in Modern Spanish (3)
Spanish 468 Spanish-English Contrastive Analysis (3)
Spanish 599 Independent Graduate Research (1–3)

Anthropological Linguistics

Anthropology 599 Independent Graduate Research (1–3)
Linguistics 409 Anthropological Linguistics (3)
Linguistics 411 Bilingualism (3)
Linguistics 412 Sociolinguistics (3)
Linguistics 565 Graduate Seminar: Major Language Families (3)
Linguistics 575 Graduate Seminar: Current Issues in Linguistics (3)
Linguistics 592 Field Methods (3)
Linguistics 593 Graduate Seminar: Linguistic Typology (3)
Linguistics 595 Problems in Field Linguistics (3)
Linguistics 599 Independent Graduate Research (1–3)

Analysis of Specific Language Structures
French 466 Introduction to French Linguistics (3)
German 466 Introduction to German Linguistics (3)
Spanish 466 Introduction to Spanish Linguistics (3)
French 500 Graduate Seminar: Advanced Structure and Style (3)
German 500 Graduate Seminar: Advanced Structure and Style (3)
Spanish 500 Graduate Seminar: Advanced Structure and Style (3)
French 510 Phonology (3)
German 510 Phonology (3)
Spanish 510 Phonology (3)
French 530 Historical Linguistics (3)
German 530 Historical Linguistics (3)
Spanish 530 Historical Linguistics (3)
French 520 Old French (3)
English 480 Seminar in Old English (3)
English 570 Graduate Seminar: Language Studies (3)
English 599 Independent Graduate Research (1–3)
Spanish 599 Independent Graduate Research (1–3)
French 599 Independent Graduate Research (1–3)
German 599 Independent Graduate Research (1–3)
Linguistics 532 Indo-European Linguistics (3)
Linguistics 565 Graduate Seminar: Major Language Families (3)
Linguistics 575 Graduate Seminar: Current Issues in Linguistics (3)
Linguistics 592 Field Methods (3)
Linguistics 593 Graduate Seminar: Linguistic Typology (3)
Linguistics 595 Problems in Field Linguistics (3)
Linguistics 596 Internship in Applied Linguistics (3)
Linguistics 599 Independent Graduate Research (1–3)

Experimental Phonetics
Linguistics 402 Advanced Phonetics (3)
Linguistics 540 Seminar in Experimental Phonetics (3)
Linguistics 575 Graduate Seminar: Current Issues in Linguistics (3)
Linguistics 599 Independent Graduate Research (1–3)
Physics 405 Acoustics (4)
Speech Communication 543 Major Problems in Speech Pathology and Audiology (3)
Speech Communication 599 Independent Graduate Research (1–3)

Communication and Semantics
Anthropology 599 Independent Graduate Research (1–3)
Linguistics 375 Introduction to the Philosophy of Language (3)
Linguistics 409 Anthropological Linguistics (3)
Linguistics 411 Bilingualism (3)
Linguistics 412 Sociolinguistics (3)
Linguistics 417 Introduction to Psycholinguistics (3)
Linguistics 504 Graduate Seminar: Semantics (3)
Linguistics 515 Graduate Seminar: Psycholinguistics (3)
Linguistics 529 Graduate Seminar: Linguistic Ontogeny (3)
Linguistics 575 Graduate Seminar: Current Issues in Linguistics (3)
Linguistics 599 Independent Graduate Research (1–3)
Philosophy 475 Seminar in the Philosophy of Language (3)
Speech Communication 599 Independent Graduate Research (1–3)

Disorders of Communication
Linguistics 403 Speech and Language Development (3)
Linguistics 417 Introduction to Psycholinguistics (3)
Linguistics 515 Graduate Seminar: Psycholinguistics (3)
Linguistics 529 Graduate Seminar: Linguistic Ontogeny (3)
Linguistics 540 Seminar in Experimental Phonetics (3)
Linguistics 575 Graduate Seminar: Current Issues in Linguistics (3)

Linguistics 599 Independent Graduate Research (1–3)
Speech Communication 441 Speech Pathology: Nonorganic Disorders (3)
Speech Communication 443 Speech Pathology: Organic Disorders (3)
Speech Communication 463 Audiology (3)
Speech Communication 543 Seminar: Major Problems in Speech Pathology and Audiology (3)
Speech Communication 563 Seminar in Audiology (3)
Speech Communication 599 Independent Graduate Research (1–3)
Coursework in a related field 6
Linguistics 597 Project (2) 2
Total 30

A minimum of 15 units in 500-level courses is required. Also, satisfactory completion of written and oral comprehensive examinations will be required at the conclusion of the program.

The examinations may be repeated only once.

For further information, consult the graduate adviser of the Department of Linguistics.

See also "The Program of Master's Degrees' in this catalog and the *Graduate Bulletin.*

LABORATORY FOR PHONETIC RESEARCH

See description on page 24.

LINGUISTICS COURSES

105A English as a Second Language (4)
(Same as Foreign Languages Education 105A)

105B English as a Second Language (4)
(Same as Foreign Languages Education 105B)

106 Language and Linguistics (3)
A general introduction to the field of human communication. Specific topics include the nature of language, its origin and development; language in culture; the system of language; and language and thought.

107 Linguistics and Minority Dialects (3)
An examination and exploration of the sounds, meanings and vocabulary of Afro-American, Caribbean, and other English dialects and their historical origin. (Same as Afro-Ethnic Studies 108)

206 Introduction to Applied Linguistics (3)
Prerequisite: Linguistics 106, its equivalent, or consent of instructor. The application of linguistic theory and methodology to all aspects of the learning of verbal behavior. Problems of literacy, stylistics, translation and the nature of pedagogical grammars.

251 Animal Language and Communication (3)
The field of animal linguistic behavior in comparison with human speech and its derivatives, and an exploration of experiments concerned with dolphins, chimps, and other species.

252 Linguistics and Literature (3)
Language as the medium of literature, with special emphasis on the new stylistics, including theories of word choice, prosody, prose style, structure, statistical analysis, metaphor. Practice in application to various literary forms. (Same as English 252)

301 Sanskrit (3)
An introduction to the Sanskrit language, emphasizing the acquisition of reading fluency. The *devanagari* script, phonology, morphology and syntax will be examined along with relevant points on Hindu culture and on the place of Sanskrit in the development of the Indo-European language family.

302 Sanskrit (3)
Prerequisite: Linguistics 301 or equivalent. Continuation of 301, concentrating on the intensive and extensive reading of Sanskrit texts. Special attention will be given to paleographic techniques and graphemics.

303 Sanskrit: Intensive Reading (3)
Prerequisite: Linguistics 302, its equivalent or consent of instructor. Designed to offer intensive training and experience in the reading and interpretation of classical Sanskrit and to further acquaint the student with the linguistic structure of the language.

304 Sanskrit: Intensive Reading (3)
Prerequisite: Linguistics 303, its equivalent or consent of instructor. Continuation of 303, concentrating on the following readings: *Upanisads, Bhagavad Gita,* the *Manava Dharma Sastra* and *Nalopakhyanam.*

305 American Dialects (3)
(Same as English 305)

351 Introduction to Linguistic Phonetics and Phonology (3)
Introduction to the nature and structure of sound systems in language, with a practical survey of analytic methods, phonetics, phonemics, distinctive features, acoustic and articulatory phonetics.

365 Introduction to Major Language Families (3)
A general introduction to the linguistic history and present structure of the world's major language families. Each semester a different language family will be studied and analyzed in terms of its synchronic and diachronic phonology, morphology, syntax and semantics.

366 Areal Linguistics (3)
Prerequisite: Linguistics 365 or consent of instructor. Introduction to the analysis and interrelationships among languages spoken in specific geographical regions regardless of their historical divergences. Each section will concentrate on a different language area.

375 Introduction to Philosophy of Language (3)
(Same as Philosophy 375)

402 Advanced Phonetics (3)
(Same as Speech Communication 402)

403 Speech and Language Development (3)
(Same as Speech Communication 403)

406 Descriptive Linguistics (3)
Introduction to the nature of human linguistic behavior. Phonological, morphological, and syntactic structures of languages are examined through the use of techniques developed for the description of such structures. (Same as Anthropology 406)

409 Anthropological Linguistics (3)
(Same as Anthropology 409)

410 Language and Culture (3)
(Same as Anthropology 410)

411 Bilingualism (3)
Prerequisite: Linguistics 406 or equivalent. The study of the personal and social development of bilingual communities as reflected in the conflict between the language of the home and the language of the community.

412 Sociolinguistics (3)
Prerequisite: Linguistics 406 or equivalent. The study of social dialects in relation to the surrounding communities. Topics include social stratification, acculturation, language maintenance, standardization, language planning and language change.

417 Introduction to Psycholinguistics (3)
(Same as Psychology 417)

430 Historical Linguistics (3)
Prerequisite: Linguistics/Anthropology 406, its equivalent, or consent of instructor. An introduction to the comparative method in diachronic linguistic methodology and theory with a discussion of graphemics, glottochronology, language families, dialect geography and internal reconstruction.

443 Principles of Teaching English to Speakers of Other Languages (3)
(Same as Foreign Languages Education 443)

475 Seminar: Current Issues in Linguistics (3)
Prerequisites: Linguistics 406 and 410, their equivalents, or consent of instructor. An intensive exploration of the latest research and development in linguistic theory, technique and methodology.

499 Independent Study (1–3)
Supervised projects in linguistics to be taken with consent of department chair as a means of meeting special curricular problems. Selection of topic to be studied varies with needs of the students enrolled. May be repeated for credit.

501 Research Methods and Bibliography (1)
Prerequisites: graduate standing and Linguistics 406, or equivalent. Introduction to principal books, periodicals, and collections in general linguistics, specific languages and related fields; techniques of preparing research papers and field reports in linguistics. To be taken concurrently with Linguistics 597.

504 Seminar: Semantics (3)
(Same as Speech Communication 504)

505 Phonological Analysis (3)
Prerequisite: Linguistics 351 and Linguistics 406 or consent of instructor. Study of various kinds of phonological systems that occur in languages. Emphasis on practical problems in the phonetic and phonemic analysis of selected language data. (Same as Anthropology 505)

507 Grammatical Analysis (3)
Prerequisite: Linguistics 406 or consent of instructor. The study of word formation and sentence construction in a variety of languages. Application of transformational analysis to selected linguistic data. (Same as Anthropology 507)

508 Theories of Syntax (3)
Prerequisite: Linguistics 507 or consent of instructor. Intensive and practical study of contemporary theories of grammar, with special emphasis on transformational, generative, logical and electromechanical bases and techniques of utterance analysis. (Same as Anthropology 508)

515 Graduate Seminar: Psycholinguistics (3)
Prerequisites: Linguistics 406 and 417 or equivalents. An examination of the behavioral, conceptual, motivational and social aspects of language, emphasizing recent developments in information theory, behavioral theory and linguistic theory as applied to human communication. (Same as Psychology 515)

529 Graduate Seminar: Linguistic Ontogeny (3)
Prerequisites: Linguistics 406 or consent of instructor. An intensive examination of the development of language and linguistic systems in the human species and in the individual from the viewpoint of contemporary linguistic analysis and theory.

530 Historical Linguistics (3)
Prerequisite: Linguistics 430, its equivalent, or consent of instructor. The history of language, also including principles and techniques for the historical study and classification of individual languages and language families, writing systems, lexicostatistical methods and linguistic geography.

532 Indo-European Linguistics (3)
Prerequisites: Linguistics 406 and 430, their equivalents, or consent of instructor. Linguistic analysis of Proto-Indo-European. Attention will be given to its later development and spread.

565 Graduate Seminar: Major Language Families (3)
Prerequisite: Linguistics 406, its equivalent, or consent of instructor. The linguistic history and present structure of one of the world's major language families with collateral attention given to the relationships between the language family. May be repeated for credit.

575 Graduate Seminar: Current Issues in Linguistics (3)
Prerequisite: Consent of instructor. An intensive exploration of the latest research and development in linguistic theory, technique and methodology. May be repeated for credit.

592 Field Methods (3)
Prerequisite: Consent of instructor. Methods of analysis and description of language structures. Data elicited from informants will be analyzed and described. Controlled study of an informant's language. (Same as Anthropology 592) May be repeated for credit.

593 Graduate Seminar: Linguistic Typology (3)
Prerequisites: Linguistics 406 or consent of instructor. Techniques, methods and criteria of comparing languages, dialects, or historical stages of languages and classifying them in terms of the basic elements of linguistic form which they represent. May be repeated for credit.

595 Problems in Field Linguistics (3)
Prerequisite: Linguistics 592 or consent of instructor. Advanced work in the methodology for determining the grammar of a previously unknown language through the use of a native informant.

596 Internship in Applied Linguistics (3)
Prerequisite: Linguistics 443 or consent of instructor. Designed to acquaint students with the practical application of linguistic theory to second language learning, particularly at the community college level. Individual supervision is provided by the faculty and cooperating individuals. Interns meet with the instructor by arrangement. May be repeated for credit.

597 Project (2)
Preparation and completion of an approved project. To be taken concurrently with Linguistics 501.
599 Independent Graduate Research (1–3)
Prerequisites: Graduate standing and consent of department chair. May be repeated for credit.

METEOROLOGY

(Offered by the Department of Earth Science and the Department of Geography)

See departmental descriptions for the following courses:

Earth Science
210 Introduction to Meteorology (3)
340 General Meteorology (3)
440 Dynamic and Physical Meteorology (3)

Geography
323 Weather and Climate (3)
423 Physical Climatology (3)

DEPARTMENT OF PHILOSOPHY

FACULTY

John Cronquist
Department Chair

Ernest Becker*, David Depew, Craig Ihara, Deanna McMahon, Merrill Ring, Gloria Rock, J. Michael Russell, Betty Safford, Stephen Simon, Richard Smith, Frank Verges, Marjorie Weinzweig.

BACHELOR OF ARTS IN PHILOSOPHY

The major in philosophy is designed to provide the undergraduate student with (1) information about the achievements of the world's outstanding philosophers in the analysis and resolution of philosophic issues, and (2) some measure of skill in analyzing and resolving such issues as they arise in his or her own areas of interest. Course requirements in philosophy are designed to provide both breadth and depth in exploring and analyzing philosophic concerns.

Requirements for the Major

1. A minimum of 36 units in philosophy.
2. *Required courses* (15 units):
   Philosophy 290 (3)
   Philosophy 291 (3)
   Philosophy 300 (3)
   Philosophy 301 (3)
   Philosophy 499 (3)
3. *History of contemporary philosophy requirement:* Three units to be met by one of the following courses: 305, 323, 380, 382, 497, 498.
4. *Area requirements:* Nine units (three courses) to include courses from at least two of the following areas:
   Area I—Ethics, Aesthetics, Value Theory: 310, 311, 345, 365, 444, 445
   Area II—Metaphysics and Epistemology: 420, 425, 430, 440, 470
   Area III—Logic and Language: 368, 369, 375, 468, 475
   Area IV—Philosophy of the Natural and Social Sciences: 341, 360, 384, 385, 435
5. *Seminar requirement:* Three units to be met by any senior seminar not used to fulfill area or history of philosophy requirements. (Senior seminars in philosophy are numbered between 444 and 498.)
6. *Electives:* 6 units of philosophy courses, upper- or lower-division, which have not been used to meet requirements 2–5, above.

Recommended Work

A program in philosophy profits greatly through the study of literature, psychology and the social sciences. Students of philosophy are advised to supplement their studies in philosophy with course-work offered in these fields. Philosophy majors are urged to acquire proficiency in a foreign language.

* University administrative officer

Preparation for Graduate School

Students who are planning to attend graduate school in philosophy are urged to include in their programs, besides the required courses, as many as possible of the following:

Philosophy 310 and 444, Ethics
Philosophy 368 and 369, Logic
Philosophy 375, Philosophy of Language
Philosophy 380, Analytic Philosophy
Philosophy 420, Metaphysics
Philosophy 430, Epistemology
Philosophy 440, Philosophy of Mind

Transfer Credit

Work done at other institutions may be counted toward the major, subject to the rules of the university and the following departmental rules: (1) only senior seminars can fulfill the seminar requirement; (2) only upper-division work can fulfill upper-division requirements; (3) *in no case can more than six units of lower-division work taken at another institution count toward the major requirement of 36 units.*

MINOR IN PHILOSOPHY

Requirements for the Minor

1. A minimum of 21 units in philosophy.
2. A minimum of 12 upper-division units in philosophy.
3. A minimum of nine units from among the following courses: Philosophy 290, 291, 300, 301.

PHILOSOPHY COURSES

For more detailed course descriptions, consult the course guide which is available each semester at registration time in the Philosophy Department office.

100 Introduction to Philosophy (3)
An introduction to the nature, methods and some of the main problems of philosophy. Designed for freshmen and sophomores. Not a prerequisite for advanced courses.

101 Contemporary Moral Issues (3)
A critical inquiry in which philosophical techniques are brought to bear on such issues as the justification of civil disobedience, the morality of war and revolution, the nature and justification of violence, the legal enforcement of morality, and women's liberation.

110 Comparative Study of the World's Great Religions (3)
A study of man's religious impulse as viewed from the philosophical standpoint. An attempt will be made to analyze and to compare religious experience as expressed in Christianity, Judaism, Islam, Buddhism, Hinduism, etc. (Same as Religious Studies 110)

115A The Western Tradition: Philosophy (3)
One component of a set of courses providing an integrated study of major developments in the heritage of Western civilization from the beginnings of Western culture to the 16th century. Concurrent enrollment in English 115A and History 115A is required.

115B The Western Tradition: Philosophy (3)
One component of a set of courses providing an integrated study of major developments in the heritage of Western civilization from the 16th/17th centuries to the present. Concurrent enrollment in English 115B and History 115B is required.

210 Logic (3)
Study of the logical structure of language and correct reasoning: deduction, induction, scientific reasoning, informal fallacies. Especially recommended for students majoring in humanities and social sciences.

250 People and Machines (3)
A conceptual investigation of ideas and activities which are pertinent to the notion of technology, e.g., determinism, causation, mechanism, the nature of thought and behavior. (Same as Technological Studies 250)

290 History of Philosophy: Greek Philosophy (3)
The origins of Western philosophy in ancient Greece, and its development to the time of Socrates, Plato and Aristotle.

291 History of Philosophy: Medieval Philosophy (3)
Scholastic philosophy and its precursors in ancient thought.

300 History of Philosophy: Rationalism and Empiricism (3)
The rationalism of Descartes, Spinoza and Leibniz, and the empiricism of Locke, Berkeley and Hume. (Same as Technological Studies 300)

301 History of Philosophy: Kant and the 19th Century (3)
The empiricistic and rationalistic influences on Kant, followed by a study of the major trends in 19th-century philosophy.

304 Methods of Inquiry (3)
Methods for identifying and analyzing philosophical issues, especially those arising across disciplinary lines of the arts and humanities, natural sciences and social sciences.

305 Contemporary Philosophy (3)
A survey and analysis of the main trends of 20th-century philosophy. Emphasis on such trends as pragmatism, linguistic analysis and existentialism.

310 Ethics (3)
An analysis of the problems of human conduct: motivation, valuing, norms, social demands and personal commitments.

311 Aesthetics (3)
An investigation into the conditions and the aims of art and aesthetic experience.

323 Existentialism (3)
An analysis of the meaning of existentialism in modern philosophy.

324 Existential Group (3)
Prerequisite: consent of the instructor. An intensive personal investigation of how themes in the writings of existentialist philosophers pertain to the life styles, actions, and feelings of the class participants.

341 Assumptions of Psychotherapy (3)
An examination of some of the peculiarly philosophical concepts and assumptions pertinent to the theory of psychotherapy, with emphasis on the Cartesian, the mechanistic and the deterministic assumptions of Freud.

343 Philosophy of Women's Liberation (3)
A critical examination of the basic value concepts and moral principles underlying such issues in the women's movement as: oppression of women, marriage as exploitation, sex stereotypes and femininity, sexuality, alternative family styles, the morality of abortion, and preferential hiring.

345 Political Philosophy (3)
Selected problems in political philosophy.

347 Selected Problems in Philosophy (1–3)
Significant contributions made to human culture through philosophical analysis. May be repeated with different content for additional credit.

350 Oriental Philosophy (3)
A critical survey of major philosophical systems of India, China and Japan, including various schools of Buddhism, Confucianism and Taoism. May be repeated with different content for additional credit.

355 Legal Philosophy (3)
An examination of theories about the nature of various legal institutions and processes, and an analysis of the concept of law and important subsidiary concepts.

360 Philosophy of History (3)
A study of the metaphysical and the logical problems of history.

365 Social Philosophy (3)
An analysis and appraisal of theories about the nature of various social, political and legal institutions, and of arguments about what these institutions ought to be.

368 First Course in Symbolic Logic (3)
The recognition and construction of correct deductions in the sentential logic and the first-order predicate calculus.

369 Second Course in Symbolic Logic (3)
Prerequisite: Philosophy 368 or equivalent. Continuation of the study of the recognition and construction of correct deductions in the full first-order predicate calculus with identity and the calculus of descriptions. Detailed examination of axiomatized deductive systems of propositional calculus.

370 Philosophy of Religion (3)
An examination of the role of philosophy in shaping theological doctrine, in critically evaluating religious experience, in arguing for or against the existence of God, and in considering the problem of evil.

373 Philosophy in Literature (3)
Exploration of philosophical themes in literature. Emphasis on recent American novels, although British and continental authors may also be treated.

375 Introduction to the Philosophy of Language (3)
An introduction to the major issues in semantical theory: truth, meaning, analytic-synthetic, semiotics. (Same as Linguistics 375)

380 Analytic Philosophy (3)
Prerequisite: six units in philosophy or consent of instructor. A detailed investigation of selected works of such 20th-century analytic philosophers as Russell, Moore, Wittgenstein, Ryle, Austin, Quine, Strawson, and Hare.

382 Marx and Marxism (3)
An introduction to the writings of Marx and his followers in their philosophic aspect. Emphasis on theories of human nature, society and intellectual activity; conceptual tools for the analysis of phenomena; sources; and followers, critical or dogmatic.

384 Philosophy of the Natural Sciences (3)
Space, time and relativity; quantum mechanics, causality and real existence; laws, theories and models; topics in the history of science. Some facility in either mathematics or philosophy is presupposed. (Same as Physics 384 and Technological Studies 384)

385 Philosophy of the Social Sciencs (3)
Methodological problems about psychology, sociology, anthropology, economics, political science and history. Objectivity and value judgments in social science; emergence; explanation; reductionist and functionalist accounts. Some acquaintance with the social sciences is presupposed. (Same as Social Sciences 385)

399 Directed Study (1–3)
Prerequisite: approval of the department. Supervised individual study as an elective by philosophy majors or other students. May be repeated for credit with different content. May not be used to replace the 499 requirement for majors.

420 Metaphysics (3)
Prerequisite: six units in philosophy or consent of instructor. An examination of such philosophical problems as freedom and determinism, mind and body, time and becoming, causation, deity, substratum, personal identity.

425 Introduction to Phenomenology (3)
Prerequisite: six units in philosophy or consent of instructor. An investigation into the historical background and basic viewpoints which have provided a framework for philosophical research and study in the writings of Husserl, Heidegger, Sartre, and Merleau-Ponty.

430 Epistemology (3)
Prerequisite: six units in philosophy or consent of instructor. An investigation of the concepts of knowledge, belief and certainty, and a study of representative theories concerning man's knowledge of the external world, the past, and other minds.

435 Philosophy of Science (3)
Prerequisite: six units in philosophy or consent of instructor. An investigation of some logical features of scientific procedure, such as the problem of induction. (Same as Technological Studies 435)

440 Philosophy of Mind (3)
Prerequisite: six units in philosophy or consent of instructor. Basic problems relating to the analysis of the concept of mind and such related issues as behavior, consciousness, and voluntary action.

442 Creativity: Psychophilosophic Theories (3)
Prerequisite: three units in philosophy or consent of instructor. Perspectives on the origins, the nature and the significance of creativity.

444 Seminar in Ethical Theory (3)
Prerequisite: six units in philosophy; Philosophy 310 recommended. Examination of alternative analyses of such concepts as right action, goodness, duty, and the justification of ethical beliefs. May be repeated with different content for additional credit.

445 Seminar in Value Theory (3)
Prerequisite: Philosophy 310 or consent of instructor. An investigation into the conditions, modes,

levels, and criteria relevant to any systematic view of valuing. May be repeated with different content for additional credit.

447 Seminar in Selected Problems (3)
Prerequisite: six units in philosophy or consent of instructor. Intensive study of some one philosophical concern, such as an individual philosopher or topic. May be repeated with different content for additional credit.

450 Seminar in Oriental Philosophy (3)
Prerequisite: Philosophy 350 or consent of instructor. A detailed examination of some major figure or school in Indian, Chinese or Japanese thought. May be repeated with different content for additional credit.

457 Seminar in Ancient Philosophy (3)
Prerequisite: Philosophy 290 or consent of instructor. A detailed study of some major ancient philosopher, such as Plato or Aristotle, or of some school of ancient philosophy, such as stoicism. May be repeated with different content for additional credit.

465 Seminar on Law and Morals (3)
Prerequisite: consent of instructor. A critical examination of important concepts which bear on questions of responsibility in both law and morals. Such concepts include will, intention, freedom, negligence, recklessness, ignorance, mistake, act and cause. May be repeated with different content for additional credit.

468 Seminar in Advanced Symbolic Logic (3)
Prerequisite: Philosophy 369 or equivalent. Detailed examination of axiomatized systems of deduction covering such areas as the propositional and predicate calculi and alternative systems of logic; topics in philosophical logic. May be repeated with different content for additional credit.

470 Seminar in Metaphysics (3)
Prerequisite: Philosophy 420 or 430 or 440, or consent of instructor. Detailed examination of some single concept, such as identity, person, time, causality, substance, understanding, reality; or of some cluster of issues, such as thought and reality, freedom and determinism. May be repeated with different content for additional credit.

475 Seminar in the Philosophy of Language (3)
Prerequisite: six units in philosophy or consent of instructor. A detailed examination of problems in the theory of meaning and formal semantics. May be repeated with different content for additional credit.

477 Seminar in British Empiricism (3)
Prerequisite: Philosophy 300 or consent of instructor. A detailed study of some major British empiricist, such as Locke, Berkeley, or Hume, or of some school or phase of British empiricism. May be repeated with different content for additional credit.

487 Seminar in Modern Philosophy (3)
Prerequisite: Philosophy 301 or consent of instructor. A detailed study of some major modern philosopher, such as Kant, Hegel, Nietzsche or Mill, or of some aspect of modern philosophy (before 1900). May be repeated with different content for additional credit.

497 Seminar in Contemporary Analytic Philosophy (3)
Prerequisite: Philosophy 305 or 380 or consent of instructor. A detailed study of some work or works of such 20th-century analytic philosophers as Russell, Moore, Wittgenstein and C. I. Lewis. May be repeated with different content for additional credit.

498 Seminar in Existentialism and Phenomenology (3)
Prerequisite: six units of philosophy, including Philosophy 323 or 425, or consent of instructor. A detailed study of major contemporary continental philosophers such as Husserl, Heidegger, Sartre and Merleau-Ponty. May be repeated with different content for additional credit.

499 Independent Study (1–3)
Prerequisite: approval of the department. Such study is designed to develop greater competency in research. May be repeated for credit. No more than three units may be taken with any one adviser in any one semester.

DEPARTMENT OF POLITICAL SCIENCE

FACULTY
Barbara Stone
Department Chair
Sidney Baldwin, John Bayes, Charles Bell, Michael Brown, Keith Boyum, Vincent Buck, Bert Buzan,

Virginia Ermer, Anne Feraru, Julian Foster, Phillip Gianos, Harvey Grody, Gary Guertner, Bernard Hyink, Karl Kahrs, Albert Liston, John Purcell, Ivan Richardson,* Alan Saltzstein, Vera Simone, Sandra Sutphen, Bruce Wright, Jon Yinger

ADVISEMENT

Undergraduates

Students are strongly urged to see one of the department's undergraduate advisers during their first semester at Cal State Fullerton. This is particularly important for community college transfers. *Failure to do so may delay graduation.*

Graduates

Students must see either their political science or public administration adviser during their first semester of study. (See section on graduate programs.)

Prelaw

Political science has been a traditional choice of majors for a large number of law school-bound students.

Curricular advice and information on a variety of activities are available from the prelaw adviser, including advice about specific law schools, law school entrance requirements (grades and Law School admission tests), the Prelaw Society, the Legal Clinic, prelaw internship and other activities.

There is no specific program within political science for prelaw-oriented majors. Law-oriented students, however, may properly include such courses as Public Law and the Judicial Process in a course of study within the major.

Students should consult the department prelaw adviser for more specifics.

BACHELOR OF ARTS IN POLITICAL SCIENCE

The undergraduate major in political science prepares students for teaching, government employment on the local, state and national level, foreign service, graduate work in political science, law school, or leadership in civic and political activities. Political science is also of value to prospective special librarians and journalists.

Unit Requirements

The major consists of 36 units of political science, of which at least 30 units must be in the upper division, plus 12 upper division units in related disciplines, usually in the social sciences (e.g., anthropology, economics, geography, history, psychology, sociology, statistics and philosophy). The department's undergraduate adviser needs to approve related credit in writing. The 48 units required for majors are in addition to those meeting the general education requirement.

Course and Breadth Requirements

All majors are required to take Political Science 100, American Government, or its equivalent. This course does not apply toward the 36 units in political science required of the major, but it may apply toward the student's general education requirements.

Majors must take 300-level courses in at least five of the six sub-fields of political science (i.e., American government, comparative politics, international relations, political theory, public law and public administration). Political Science 330, Comparative Political Analysis, and Political Science 340, Political Philosophy, are required.

University minimum GPA requirements for major courses also apply to the related fields' requirement; however, the related fields' requirement courses may be taken on a Credit/No Credit option. All majors must acquire knowledge of research approaches and methods in one of the following ways: (a) by taking one of the research proseminars offered as part of the six-unit intensive classes; (b) by taking Political Science 407, Quantitative Methods in Political Science, or its equivalent (subject to written approval of the adviser).

There are other prerequisites for many of the 400-level courses offered by the department; therefore, the student should plan in advance to meet course requirements (e.g., public administration course require Political Science 320, Politics, Public Administration and Policy, as a prerequisite in addition to Political Science 100).

Integrative Seminars for Seniors

All majors must take Political Science 490, Seminar in Selected Topics, in their senior year. This

* University administrative officer

capstone seminar will emphasize the integration and synthesis of knowledge in the study of politics and political issues.

Students who transfer into the department with political science credit from other schools may not use those units exclusively to satisfy major requirements.

For current information regarding the Department of Political Science, the student is advised to consult the departmental bulletin (PS), which is issued each semester.

Concentration in Public Administration

The undergraduate concentration in public administration is designed for those students who seek careers in public service. The courses within the curriculum introduce the students to the major concepts and issues in the study of public bureaucracy and to important processes and tools of public administration. It should be emphasized that the concentration does not provide students with complete training in the "skill" of administration. It does give them an orientation to the environment and profession of public administration and acquaint them with the context and procedures of some of the important jobs of the administrator, such as budgeting, personnel administration, research, policy analysis and management.

There are three basic course requirements (9 units) for the concentration:

Political Science 320, Politics, Policy and Administration, either Political Science 321, Proseminar in Politics, Policy and Administration, or Political Science 407, Quantitiative Methods and Political Science 497, Internship

An additional 12 units in public administration are also required. At least one course must be taken from those courses dealing with administrative tools, and one must come from that group emphasizing adminstrative contexts and processes. Twelve units of other political science course work must also be taken. In addition, nine units of upper division work in a related field are required for the major. In sum, 42 units are required for the undergraduate concentration in public administration. Information on course requirements and options is available from the undergraduate adviser for public administration.

INTERNSHIPS

The department offers several internships designed to give the student experience in applying political science knowledge to specific problems. At present these are in international relations (Political Science 491); prelaw (Political Science 492); (Political Science 497) for students interested in public administration; and politics (Political Science 498).

The Political Externship (Political Science 298) is available for the non-major or beginning political science student. For additional details, see course description.

INTENSIVES (RESEARCH PROSEMINARS)

Students who want to concentrate their study on a special topic or problem are urged to take the appropriate six-unit intensive classes. Combining lectures/discussion with applied research, these courses enable the interested student to become involved in a specific subject. See catalog description of Political Science 311, 316, 321, 331, 336, 341, 346, 351 and 376.

MINOR IN POLITICAL SCIENCE

The minor is composed of 21 units of political science, in addition to those meeting the general education requirements.

MASTER OF ARTS IN POLITICAL SCIENCE

This degree is planned for students interested in advanced graduate work toward the doctoral degree in political science, for the professional improvement of high school and community college teachers, government employees, personnel in the military services and for individuals interested in civil and political leadership.

Prerequisites

An applicant must meet the university requirements for admission in conditionally classified graduate standing: a baccalaureate degree from an accredited institution and a grade-point average of at least 2.5 in the last 60 semester units attempted (see section of this catalog on admission of graduates for complete statement and procedures).

A student who meets the requirements for conditionally classified graduate standing, as well as the following requirements, may be admitted as a classified graduate upon the development of an approved study plan: completion of an undergraduate degree with a grade-point average of 3.0 or more in courses in the major field. If the major field was not political science or another social

science, the student must have a GPA of 3.0 both in the major and in any upper division social science courses taken. A student whose GPA is less than 3.0 may appeal to the departmental committee for waiver of this requirement if the combined score on the GRE aptitude test is 1,000 or more.

Study Plan

A student must design a study plan of 30 units of coursework, subject to the approval of his M.A. committee (as part of the requirements for admission to classfied status). At least 18 of these units must be in political science, of which 15 units must be 500- level courses. Each student selects a major and minor area of interest such as American politics, comparative politics, international relations, political theory, public law and public administration. Seminars are to be taken in areas selected. Political Science 506 must be taken during the first two semesters in the program.

A student has the option of (1) writing a thesis (3–6 units), with an oral examination required, or (2) taking comprehensive written and oral examinations. In the latter case, a project (3–6 units) may be included on the student's study plan.

No more than nine units of postgraduate work taken prior to classified standing may be applied to a student's master's degree program.

Thesis

A chairman and two other members of a student's thesis committee shall be selected by the student in consultation with the graduate advisory committee.

A thesis shall include an oral examination which covers the subject matter of the thesis as well as a general knowledge of the discipline, particularly the student's major and minor fields.

Comprehensive Examinations

Comprehensive examinations shall include written and oral tests in a student's major area of concentration, minor area, and the scope, and theory of the discipline. All three sections must successfully be passed or the entire examination must be retaken.

A student who does not pass the written portion is ineligible to take the oral test.

A student is entitled to retake the examinations only once if he fails in the initial effort.

Research Skills

Each student in the M.A. in Political Science program must demonstrate one of the following:

1. Reading knowledge of a foreign language. Students who have successfully completed at least one semester (or its equivalent) of academic work where his/her instruction in such work was in a language other than English will be assumed to have completed the language requirement. Other students may complete this requirement by passing an examination.
2. Proficiency in quantitative research skills; Including data analysis, research design, computer application. Mastery of these skills is to be demonstrated by successful completion of an examination administered by the departmental research committee.

For advisement and further information, consult the M.A. in Political Science adviser. See also "The Program of Master's Degrees" and the *Graduate Bulletin.*

MASTER OF PUBLIC ADMINISTRATION

As a major gateway to a professional career in government and public affairs, the M.P.A. degree is designed to serve the following purposes:

1. To prepare students who wish to enter a "generalist career" in public administration, leading to such positions as city manager, county administrator, and general administrative officer in city, county, state, and national governments;
2. To strengthen the professional competence of those who are already embarked on careers in general or in specialized areas of public administration, such as budgeting and finance, personnel development, systems analysis, and relations with the public;
3. To assist functional specialists, such as those in urban planning, public works, public welfare, law enforcement, education, community development, and other fields, who believe that they need a broader education in public affairs;
4. To provide academic study for more experienced or mature persons who wish to prepare themselves for second careers in public service;
5. To increase the administrative practitioner's understanding of the larger political system within which public administration takes place; and
6. To provide academic preparation for those interested in proceeding to the doctoral degree in public administration.

Prerequisites

An applicant must meet the university requirements for admission in conditionally classified graduate standing: a baccalaureate degree from an accredited institution and a grade-point average of at least 2.5 in the last 60 semester units attempted (see section of this catalog on admission of graduates for complete statement and procedures).

A student who meets the requirements for conditionally classified graduate standing, as well as the following requirements, may be admitted as a classified student upon the development of an approved study plan: (1) Completion of a minimum of 12 semester units of undergraduate coursework in the social sciences, six semester units of which must have been upper division level; (2) Attainment of a grade-point average of 3.0 or better in upper-division courses in the major field, or completion of nine units of adviser-approved coursework with a GPA of at least 3.25; (3) Completion of no more than nine semester units of adviser-approved coursework in this program.

Students with grade-point deficiencies in their baccalaureate work or students who have not satisfied the requirement of 12 units of social science coursework, but who have had extensive experience in public administration, may be classified in the program after they have demonstrated their capacity for doing advanced academic work by successfully completing nine semester units of approved coursework in this program with a grade-point average of at least 3.3.

Study Plan

The degree study plan must include a *minimum* of 30 semester units of adviser-approved coursework which meets the following requirements:

1. Twelve units of required core coursework in public administration as follows:

		Units
Political Science 523	Administrative Research and Analysis *	3
Political Science 521	Seminar in Public Administration Theory	3
Two of the following:		
Political Science 526, Seminar in Administrative Behavior, Political Science 525, Seminar in Metropolitan Area Governments, Political Science 528, Seminar in Public Administration and Policy, Political Science 519, Seminar in State Governments		6
Total		12

2. At least 15 units must be at the 500 level.
3. No more than six units from other institutions may be accepted for transfer credit.
4. Three units of credit in the public administration internship for students who do not have adequate public service experience.
5. Candidates for the M.P.A. degree must successfully pass a written comprehensive examination in public administration, but any candidate may, with the approval of the M.P.A. adviser, choose either the project (Political Science 597) or the thesis (Political Science 598) in lieu of the comprehensive examination. Both the project and the thesis earn three units of coursework each and include a final oral defense.
6. Normally, no more than nine units of postgraduate coursework taken prior to classified status may be applied to the master's degree program.
7. A course in basic statistics must be taken during the first semester if not previously taken. This course cannot be applied toward the 30 units of coursework.

For further information, consult the M.P.A. adviser.

See also "The Program of Master's Degrees" in this catalog and the *Graduate Bulletin*.

POLITICAL SCIENCE COURSES †

Political Science 100 or its equivalent is the prerequisite for all upper division political science courses; 300-level courses beginning with 310 may require concurrent enrollment in a research proseminar (see discussion of Intensives on page 299). See the departmental bulletin for details not provided in the course descriptions below.

* Political Science 523 requires a course in statistics as a prerequisite or consent of instructor.
† Prerequisite may be waived only with consent of instructor.

100 American Government (3)
Explores people, their politics, and power focusing on contemporary issues, changing political styles and processes, institutions and underlying values contributing to the stability of the American political system. Satisifies state requirements in U.S. Constitution and California state and local government.

171 Lawyers and the Legal Profession (1)
An overview of the place of lawyers in American society, and a perspective on current trends and future projections for the profession. Includes a discussion of law schools and legal education, the employment market, and alternative law-related jobs.

188 Politics of the Future (1)
A general survey of sociopolitical issues of the future. Emphasis is on the response of social institutions (particularly political) to changing values and conditions.

200 Introduction to the Study of Politics (3)
Describing and evaluating politics; political science as an academic discipline.

298 Political Externship (3)
Applied politics for the nonmajor or beginning political science student. Students will work in campaigns or in the offices of elected public officials; supervision by both faculty and cooperating agency; regular seminars and individual conferences. May be repeated once.

300 Contemporary Issues in California Government and Politics (3)
Analysis of contemporary issues in California government and politics, including regional, county, and community subdivisions. Emphasis on decision-making and costs of democracy; crisis in the cities, flight to the suburbs, and race relations. Comparisons will be made with other states and their subdivisions. Satisfies state requirement in California state and local government.

309 Introduction to Urban Politics (3)
The course focuses on metropolitan areas, both the inter city and suburbia. Emphasis is on political processes and topics include power in the city, the urban-suburban relationship, political fragmentation and the role of the national government in urban areas.

310 American Political Behavior (3)
Stresses American culture, social patterns, behavior as they relate to political interaction. To be taken in conjunction with Political Science 311 when offered by same instructor.

311 Research Proseminar in American Political Behavior (3)
Research concepts and techniques applied to an individual project in American political behavior. Offered only as companion course to Political Science 310. May be waived upon consent of instructor.

315 American Political Process (3)
Stresses theoretical and analytic approaches to the study of structures, processes, and institutions in the American political system. To be taken in conjunction with Political Science 316 when offered by same instructor.

316 Research Proseminar in American Political Process (3)
Research concepts and techniques applied to an individual project in American political process. Offered only as companion course to Political Science 315. May be waived upon consent of instructor.

320 Politics, Policy and Administration (3)
Public administration and the roles played by administrators in the formulation and execution of public policy. To be taken in conjunction with Political Science 321 when offered by same instructor.

321 Research Proseminar in Politics, Policy and Administration (3)
Research concepts and techniques applied to an individual project in public administration and policy analysis. Offered only as companion course to Political Science 320. May be waived upon consent of instructor.

330 Comparative Political Analysis (3)
Compares patterns of political behavior and interaction in various political systems. Also analyzes the basis for making such comparisons. To be taken in conjunction with Political Science 331 when offered by same instructor.

335 Comparative Political Change (3)
A comparative study of sources and patterns of political change. To be taken in conjunction with Political Science 336 when offered by same instructor.

336 Research Proseminar in Comparative Political Change (3)
Research concepts and techniques applied to an individual project in comparative political change.

Offered only as companion course to Political Science 335. May be waived upon consent of instructor.

340 Political Philosophy (3)
Problems of evidence and validation in political studies. Distinction between empirical statements, value judgments and tautologies. Relationship of fact and value. Systematic approaches to the political philosophies of selected thinkers. Take in conjunction with Political Science 341 when offered by same instructor.

341 Research Proseminar in Political Philosophy (3)
Research concepts and techniques applied to an individual project in Political Philosophy. Offered only as companion course to Political Science 340. May be waived upon consent of instructor.

345 Political Culture and Political Value (3)
Political values as they relate to aspects of political culture such as perceptions, attitudes and participation. To be taken in conjunction with Political Science 346 when offered by same instructor.

346 Research Proseminar in Political Culture and Political Values (3)
Research concepts and techniques applied to an individual project in political culture and political value. Offered only as companion course to Political Science 345. May be waived upon consent of instructor.

347 Political Theory and Political Practice (3)
Alternative conceptions of the relationship between thought and action in politics, including discussion of alternative modes of participation in political activity.

350 World Politics (3)
The global political system; institutions and processes of interaction among states and other international actors.

351 Research Proseminar in International Politics (3)
Research concepts and techniques applied to an individual project in international relations. Offered only as a companion course to Political Science 350. May be waived upon consent of instructor.

352 American Foreign Policy (3)
An examination of United States' foreign policy since World War II emphasizing institutions and bureaucracies of foreign policy decision-making, military and national security policy, domestic sources of foreign policy, and changes brought about by detente with communist nations.

375 Public Law (3)
Nature and function of public law particularly within the Anglo-American political tradition. To be taken in conjunction with Political Science 376 when offered by same instructor.

376 Research Proseminar in Public Law (3)
Research concepts and techniques applied to an individual project in public law. Offered only as a companion course to Political Science 375. May be waived upon consent of instructor.

400 Problems in American Government (3)
Examination of such problems as the role of the federal government regarding pollution, drugs and narcotics (education, law enforcement). The seniority system in Congress; the role of lobbies, etc., using government reports, Congressional hearings, newspapers and journals of opinion.

407 Quantitative Methods in Political Science (3)
Introduction to quantitative research methods in political science. Includes introduction to computer data processing techniques and instruction in statistical measures employed in analyzing social science research data. Previous computer experience or background in statistics not required for this course.

410 Political Parties (3)
The structure and methods by which the political parties operate in the American political system with some comparisons to their structure and operation in other democratic societies.

411 Art of Administration (3)
Prerequisite: consent of instructor. An examination of public administration as "art" rather than "science." Features the reading of administrative novels and other fictional literature, and the review of films and other audiovisual media.

412 The Art of Politics (3)
Prerequisite: consent of instructor. An examination of politics as it is practiced and understood by practitioners of the art. A seminar which features guest lecturers.

413 Pressure Groups and Public Opinion (3)
The power and growth of farm, labor, business, and noneconomic pressure groups; interest group

activity in Congress; administration and courts; public opinion and propaganda.

414 The Legislative Process (3)
A study of the legislative process in Congress and state legislatures. Stress is placed on policy, representation, reform and behavior of individual legislators. Bureaucratic lawmaking and the legislative roles of the President and interest groups.

415 Political Behavior (3)
A behavioral approach to understanding how and why people behave politically. Topics include: the U.S. power elite, voting behavior, how children learn politics, an examination of the nature or nurture aspects of political behavior, and the role of ideology and personality.

416 The American Presidency (3)
Presidential power, the resources on which that power is based, and the limitations on the use of that power. The relations between the President, and Congress, the bureaucracy, the press and the public.

418 Public Policy Process (3)
Analysis of various public policy-making models and evaluation of their applicability to selected contemporary policy issues.

420 Governing the Urban Community (3)
Study of ideas, institutions, interests in the governance of urban communities, specially emphasizing decision-making, problem-solving, and policy-making, and administrative institutions.

421 Public Finance Administration (3)
Prerequisite: Political Science 320. Role of finance administration and budgeting in determination of public policy. Relationship of assessment administration to governmental revenues and expenditures; principles and practices of cost accounting, treasury management, and capital budgeting.

422 Public Personnel Administration (3)
Prerequisite: Political Science 320. Growth and development of the civil service and the merit system; evaluation of recruitment procedures and examinations; analysis of such topics as position classification, salary structures retirement plans, in-service training, employee organizations, and personnel supervision.

423 Regional Planning and Development (3)
Prerequisite: Political Science 320 or consent of intructor. Governmental policies, procedures, and agencies involved in planning and development of regions. Survey of regional problems and objectives, emerging views of regional planning, and investment allocation during development process.

424 Urban Planning and Development (3)
Prerequisite: Political Science 320 or consent of instructor. The origins and development of city planning; the legal bases and fundamental concepts of planning are defined; and the organization of the general plan, zoning laws and administration, urban renewal, and capital programming are considered.

425 Comparative Public Administration (3)
Prerequisites: Political Science 320. Cross-cultural comparison of public administration systems; application of different models of analysis to administrative institutions; bureaucracy; ecology of public administration in modernized and developing societies; and the role of public administration in nation-building.

427 Metropolitan Politics and Administration (3)
Prerequisite: consent of instructor. The politics and administration of metropolitan area institutions of government, with emphasis upon their problems and alternative solutions.

428 Administrative Systems and Analysis (3)
Prerequisite: Political Science 320. Administrative systems and analysis in contemporary government, with emphasis upon systems planning and design, data processing, work flow, control systems, operations research, cost-benefit analysis and forms design.

429 Public Personnel Training (3)
Training methodology in public administration including exploration of the problems, methods and institutions in the training of public personnel, emphasizing labor-management relations.

430 Government and Politics of a Selected Nation-State (3)
Prerequisite: Political Science 330 or consent of instructor. Analysis of the political institutions and processes of a selected nation-state. May be repeated for credit.

431 Government and Politics of a Selected Area (3)
Prerequisite: Political Science 330 or consent of instructor. Comparative analysis of the structures

and functions of national political systems in a selected geographic area. May be repeated for credit.

440 Political Ideologies and Attitudes (3)
A comparative analysis of the content and historical evolution of modern ideologies such as liberalism, democracy, communism, socialism and fascism. The distinctive appeals of these ideologies will be explored for an understanding of their relationship to social and political change.

442 Problems of Democratic Political Thought (3)
Problems relevant to philosophies and theories of democratic political systems, with emphasis on American political thought.

443 The Theory and Philosophy of Marxism (3)
Prerequisite: Political Science 340. An analytical study of Marxist theory and philosophy from its pre-Hegelian roots to the present.

451 Problems in International Relations (3)
Prerequisite: Political Science 350. Study of selected problems in international politics and foreign policy, as specified by instructor. See department bulletin for subject focus each semester. May be repeated for credit.

452 Foreign Policy of a Selected Country or Group of Countries (3)
Objectives, capabilities, policy-making processes, and implementation of the foreign policies of a particular country or group of countries. Focus may be on United States, Soviet Union, Latin America or other countries or areas. May be repeated for credit.

455 Comparative Analysis of Foreign Policies (3) (Formerly 355)
Frameworks for analyzing the foreign policies of state domestic and external determinants of foreign policy actions; foreign policy decision-making institutions and processes, foreign policy objectives and instruments.

456 The National Security Establishment (3)
Conflicting theories of national security, the functions of defense and intelligence bureaucracies in foreign and domestic policy making, problems of arms control, and the dangers to democratic values and institutions posed by the technology of national security.

461 The United Nations and Other Public International Organizations (3)
Prerequisite: Political Science 350. Structure and functions of United Nations and various specialized and regional international organizations.

470 Judicial Process (3)
Prerequisite: Political Science 375 or consent of instructor. The nature, functions and roles of courts in the Anglo-American legal system; the nature, functions and roles of major participants in the American legal system, including judges, attorneys and citizens.

473 Introduction to Constitutional Law (3)
The role of the courts, the Presidency, Congress and the states within the US constitutional system. Judicial review, Presidential impoundment and impeachment, Presidential foreign and military powers, regulation of the economy and public morals, and Congressional investigations.

474 Seminar in Constitutional Law: Civil Rights and Civil Liberties (3)
Prerequisite: Political Science 375 or consent of instructor. Case studies in selected constitutional rights and liberties, typically involving relationships between the individual and government which are affected in particular by the Bill of Rights and the 14th Amendment.

475 Administrative Law (3)
Prerequisite: Political Science 320 or 375 or consent of instructor. The study of law as it affects public officials and agencies in their relations with private citizens and the business community. Attention is given to appropriate case materials and regulatory practices.

476 International Law (3)
Prerequisite: Political Science 350 or 375 or consent of instructor. The sources and nature of international law the law of war and peace; the rights and duties of nations in their international relationships, the World Court: purpose, problems, and prospects.

481 Politics Through Literature (3)
Uses the novel as a means of explicating political behavior in various nation-states.

482 Environmental Policy and Politics (3)
The nature of environmental problems, national and international. An examination of the public policy-making process as it relates to environmental issues.

485 Politics of Change (3)
Focuses on a specific cultural, religious, or ethnic interest group or on the impact of a particular

ideology, movement or individual or political processes and behavior. Frequently includes role of women, politics of women and the law, women's liberation movement. May be repeated for credit.

488 Alternative Political Futures (3)

U.S. political alternatives. Modes and techniques of prediction. Impact of world population growth and resource shortages. Can present U.S. political institutions survive? How will/might they change? ZPG, ZEG, women's lib, and post-industrial values. Is the city the future?

490 Seminar in Selected Topics (3)

Seminar in selected topics to be announced on a semester basis. May be repeated for credit.

491 International Internship (3)

Prerequisite: consent of instructor. Students work 10 hours per week with officials of foreign governments located in the Los Angeles-Orange County area, usually consular officials. Individual supervision is provided by faculty and cooperating officials. Interns meet with instructor by arrangement.

492 Prelaw Internship (3)

Prerequisite: consent of instructor. Designed to acquaint students with the legal profession primarily in the public rather than private spheres. A supervised working commitment of 10 hours weekly with an assigned individual or organization.

497 Government Internship (3)

Prerequisites: public administration concentration and consent of instructor. Students work 15–20 hours per week as supervised interns in a public agency or related organization. Supervision is provided by the faculty and cooperating agency. In addition to the job experience, interns meet in a weekly three-hour seminar.

498 Political Internship (3)

Prerequisites: political science concentration and consent of instructor. Students work 8–12 hours per week with elected officials or candidates for elective office. Individual supervision is provided by the faculty and cooperating individuals. Interns meet with instructor by arrangement. May be repeated for credit.

499 Independent Study (1-3)

Open to advanced students in political science with consent of department chair.

501 Readings in Political Science (3)

Prerequisite: consent of instructor. A seminar surveying the major works in the discipline of political science; strongly recommended for all students seeking an M.A. in Political Science or an M.P.A.

506 Seminar in the Scope and Theory of Political Science (3)

Prerequisite: consent of instructor. The nature of the discipline, approaches, tools, concepts and theories.

509 Administrative Organization and Process (3) (Formerly 419)

Prerequisite: consent of instructor. For graduate students in public administration who have not had an introductory course in public administration. Topics, as organizational theory and practice, decision making, systems analysis, performance evaluation and administrative improvement.

511 Seminar in American Politics (3)

Prerequisite: consent of instructor. A comprehensive examination of the political process in the United States.

515 Seminar in Political Behavior (3)

Prerequisite: consent of instructor. An intensive analysis of selected topics in political behavior.

519 State and Local Government (3)

An analysis of the structure, processes, functions, and interrelationships of state and local governments in our changing American society. Particular emphasis will be given to state, county, municipal and special district government in California as compared with other states.

520 Seminar in Public Finance Administration (3)

Prerequisite: consent of instructor. Study of selected topics in public finance administration.

521 Seminar in Public Administration Theory (3)

Prerequisite: consent of instructor. Study of the concepts, models and ideologies of public administration within the larger political system.

522 Seminar in Public Personnel Administration (3)

Prerequisite: consent of instructor. Study of selected topics in public personnel administration.

523 Administrative Research and Analysis (3) (Formerly 426)
Prerequisite: Political Science 320 or 509. Concepts and methods employed in administrative research and analysis, with emphasis on organization and procedure surveys, performance evaluation techniques, administrative data sources and their uses, and report writing.

524 Seminar in Environmental Planning (3)
Prerequisite: consent of instructor. Specialized study of problems and issues in the physical and human environment of the urban community.

525 Seminar in Metropolitan Area Government (3)
Prerequisite: consent of instructor. Study of the different approaches to metropolitan areawide government, with special emphasis on interjurisdictional conflict and cooperation and the roles of state and national governments.

526 Seminar in Administrative Behavior (3)
Prerequisite: consent of instructor. Concepts, functions and techniques of administrative leadership; group dynamics; decision-making; the organization and the individual.

528 Seminar in Public Administration and Policy (3)
Prerequisite: consent of instructor. Study of the interplay between public policy development and program administration.

529 Seminar in Administrative Management Theory (3)
Prerequisite: consent of instructor. Study of selected topics in organization and management theory.

531 Seminar in Comparative Politics (3)
Prerequisite: consent of instructor. A comparative study of political systems.

540 Seminar Readings in Political Philosophy (3)
Prerequisite: undergraduate preparation in political theory or philosophy. Readings of selected classics in political philosophy. Politics from the perspective of normative political theory.

541 Seminar in Contemporary Political Theory (3)
An analysis of recent social and political theories emphasizing the problems of the post-industrial world, such as imperialism, bureaucracy and alienation, and their possible resolutions.

550 Seminar on Foreign Policy Formulation (3)
Prerequisite: consent of instructor. A study of various models of the foreign policy-making process. Emphasis will be on the interaction between domestic and international sources for policy formulation.

551 Seminar in International Relations (3)
Prerequisite: consent of instructor. Study of selected problems in international relations with emphasis on individual research and contributions within the framework of a seminar. May be repeated for credit.

571 Seminar in Public Law (3)
Prerequisite: consent of instructor. Study of selected topics in public law.

597 Project (3)
Prerequisite: consent of instructor.

598 Thesis (3-6)
Prerequisite: consent of instructor.

599 Independent Graduate Research (1-3)
Prerequisite: consent of department chair. May be repeated for credit.

DEPARTMENT OF PSYCHOLOGY

FACULTY
David Perkins
Department Chair

Frank Bagrash, Christopher Cozby, Ernest Dondis, Peter Ebersole, Margaret Fitch, Arthur Graesser, Richard Lindley, William Lindner, Carol Lindquist, Richard Lippa, Richard McFarland, Douglas Navarick, Michael Scavio, Louis Schmidt, Don Schweitzer,* William Smith, Edward Stearns, George Watson, Arthur Webber, Geoffry White, Margaret White, Stanley Woll, Patricia Worden.

BACHELOR OF ARTS IN PSYCHOLOGY

The major is designed to educate students in a wide variety of the content areas in psychology. A

* University administrative officer

structured program of major requirements acquaints the student with the multifaceted nature of psychological inquiry. Biological, social, clinical, and learning approaches to the understanding of behavior are explored. The program allows the student flexibility in the construction of a course of study through the choice of electives.

Courses in the department attempt to convey both the present knowledge in the field and the methods used to obtain new knowledge. Thus, course content generally reflects the interplay among theory, method, data, and practice. Majors may also expect to become familiar with the scientific method, statistics, experimental design, and the use of psychological tests as tools of inquiry into the nature of behavior.

The major in psychology provides a sound background in psychology as part of a strong liberal arts education. It may also provide a basis for work and professional training in business, law, or public organizations. The major provides a thorough groundwork for students who wish to pursue graduate education in psychology.

Requirements for the Major	*Units*
I. **Lower Division**	9
Psychology 101 Introductory Psychology (3)	
Psychology 161 Elementary Statistics (3)	
Psychology 202 Research Methods in Psychology (3)	
II. **Upper Division**	15
Psychology 302 Experimental Psychology: Learning and Motivation (3)	
One of the following three courses:	
Psychology 303 Experimental Psychology: Sensation and Perception (3)	
Psychology 304 Comparative Animal Behavior (3)	
Psychology 321 Physiological Psychology (3)	
One of the following three courses:	
Psychology 331 Psychology of Personality (3)	
Psychology 351 Social Psychology (3)	
Psychology 361 Developmental Psychology (3)	
Psychology 408 History of Psychology (3)	
Psychology 461 Group Psychological Testing (3)	
III. **Upper Division (300/400 level) Psychology Electives**	12
Total	36

The upper division elective courses should be selected in consultation with an academic adviser. Not more than three units of Independent Study (Psychology 498 or 499) may be counted toward the major. Each course counted toward the major must be completed with a grade of C or higher.

Recommended Related Courses

Courses from each of the following areas according to the student's interests: (1) social sciences; (2) physical sciences; (3) biological sciences; (4) mathematics; (5) humanities.

Students planning to do graduate work in psychology are advised to plan additional work in biological, physical, and computer sciences and to include at least a one-semester course in college mathematics. Undergraduate work in foreign languages is also recommended.

Honors Courses

The Psychology Department also offers a sequence of honors courses for qualified students who wish to do advanced work in psychology. The first of these honors courses (Psychology 491) provides students with an opportunity to carry out research under the tutorial guidance of a faculty member. The second (Psychology 492) is a seminar in contemporary issues in psychology. Work on the research project and seminar participation will be evaluated for departmental Honors. Interested students should obtain further information and applications from the department office.

Student Advisement

All students are encouraged to contact a psychology faculty adviser during their first semester. Community college transfer students should be advised that a maximum of nine units of psychology credit can be applied towards the requirements for the major. These units must fit the requirements of Psychology 101, 161 and 202 as specified in the course descriptions for these courses. Any additional psychology units taken at a community college and approved by the University may, however, be used for University credit towards the required 124 units for graduation.

The student is also encouraged to obtain a copy of the *Psychology Department Student Handbook* from the department office. This handbook presents expanded information on student advisement and faculty interest areas.

Minor in Psychology

The Psychology Department offers an approved minor program consisting of 21 units of psychology. The minor is intended to allow students to receive recognition for a concentration in Psychology even though they major in another discipline. Students majoring in areas quite different from psychology may find the minor useful in broadening their undergraduate education. In addition, students majoring in related disciplines (e.g., sociology, human services) may find the minor useful in maximizing their career opportunities.

The minor program consists of the following courses:

Psychology 101	Introductory Psychology
Psychology 202	Research Methods in Psychology

One of the following laboratory/field research courses:

Psychology 302	Experimentation Psychology: Learning & Motivation
Psychology 303	Experimentation Psychology: Sensation & Perception
Psychology 304	Comparative Animal Behavior
Psychology 321	Experimentation Psychology: Physiological Psychology
Psychology 441	Experimentation in Personality
Psychology 451	Experimental Social Psychology
Psychology 453	Attitude Formation & Change
Psychology 463	Experimental Child Psychology
Psychology 470L	Behavior Modification Laboratory

One of the following:

Psychology 331	Psychology of Personality
Psychology 341	Abnormal Psychology
Psychology 351	Social Psychology
Psychology 361	Developmental Psychology

Plus three other upper division courses or two other upper division courses and Psychology 161 No more than three units of Independent Research (Psychology 498 or 499) may be used to meet the requirements of the minor.

MASTER OF ARTS IN PSYCHOLOGY

The Master of Arts in Psychology is designed to broaden the student's knowledge in the major content areas of psychology and to develop skills in analyzing and carrying out research. The degree is useful for those intending to do advanced graduate work in psychology or to teach in a community college and for those seeking careers in a variety of community positions.

Admission to Graduate Standing: Classified

An applicant who meets the following requirements may be admitted as a classified graduate student upon development of an approved Study Plan: (1) satisfaction of the general prerequisites for graduate work which include a baccalaureate degree from a regionally accredited institution and a grade-point average of at least 2.5 in the last 60 semester units attempted (see section of this catalog on admission of graduates for complete statement and procedures); (2) a 2.5 overall grade-point average and a 3.0 average in psychology; (3) a major in psychology or approved equivalent coursework with a broad background in psychology including at least one course in psychological statistics, at least one psychology laboratory course, at least two courses in psysiological psychology, sensory psychology, perception, learning or motivation, and at least one course in social psychology, personality, developmental psychology, or psychological testing; (4) completion of Psychology 408, History of Psychology, or equivalent, and Psychology 465, Analysis of Variance, or equivalent, with grades of B or better (alternatively, these courses may be included in the graduate study plan as electives); (5) satisfactory performance in the Aptitude and Advanced Psychology Tests of the Graduate Record Examination; (6) three satisfactory letters of recommendation. Those to be admitted to the program will be selected from among the qualified applicants at the sole discretion of the department's Graduate Studies Committee. In addition to the university application, a departmental application form, obtainable by mail from the Psychology Department's graduate office, must be completed and returned to that office.

Admission to Graduate Standing: Conditionally Classified

It may be possible for applicants who have minimal deficiencies in prerequisite requirements, as detailed above, but who are otherwise highly qualified, to be admitted in conditionally classified graduate standing, with provisions made for removal of deficiencies prior to the granting of classified standing. For further information, consult the graduate program adviser.

230 9 2 430

Study Plan

The Master of Arts in Psychology requires a minimum of 30 units of approved graduate work, including the completion and acceptance by the Psychology Department Graduate Studies Committee of a written thesis.

The student, in consultation with an adviser on the staff of the Psychology Department, shall develop a program of studies which will be submitted to the Graduate Studies Committee of the Department of Psychology for approval.

Course requirements for the M.A. in Psychology:	*Units*
Psychology 501A and 501B Proseminar in Psychology	3–3
Psychology 510 Experimental Design	3
Psychology 520 Seminar: Experimental Psychology	3
Psychology 521 Seminar: Personality *or* Psychology 522 Seminar: Developmental *or* Psychology 551 Seminar: Social Psychology	3
Psychology 598 Thesis	3–6
Elective upper division or graduate courses	9–12
(up to 6 units may be in related areas outside psychology)	—
Total	30

Students are expected to complete Psychology 501A and 501B during the first two semesters of graduate work in psychology.

In order to be advanced to candidacy, a student is required to have completed 12 units on the Study Plan with a B average and must have received a grade of B or better in Psychology 408 or equivalent, Psychology 465 or equivalent, Psychology 501A, Psychology 501B, and Psychology 510. An oral defense of the thesis is required at the completion of the student's program.

For further details or advisement, please consult the graduate program adviser of the Department of Psychology.

See also "The Program of Master's Degrees" in this catalog and the *Graduate Bulletin.*

MASTER OF SCIENCE IN PSYCHOLOGY

Concentration in Clinical/Community

The Master of Science is a highly structured program which requires a two-year commitment to full-time coursework. It is an applied program in clinical and community psychology providing an introduction to the research literature and experience in selecting, administering, scoring, and interpreting diagnostic tests as well as practical, closely supervised experience in conducting individual and group therapy, including behavior modification procedures. The program provides preparation for paraprofessional or professional work in a variety of mental health settings.

Admission to Graduate Standing: Classified

An applicant who meets the following requirements may be admitted as a Classified graduate student upon development of an approved study plan: (1) the general prerequisites for graduate work, which include a baccalaureate degree from an accredited institution and a grade-point average of at least 2.5 in the last 60 semester units attempted (see section of this catalog on admissions of graduates for complete statement and procedures); (2) a major in psychology or 24 approved units in upper division psychology (if the latter option is chosen, the student must have completed one upper division psychology laboratory course, at least two courses in physiological psychology, sensory psychology, perception, learning or motivation, at least one course in social psychology, personality, developmental psychology or psychological testing, one statistics course, and a course in abnormal psychology); (3) a grade-point average of 3.0 in psychology; (4) acceptable performance on the Aptitude Test and Advanced Test of the Graduate Record Examination; (5) three satisfactory letters of recommendation. Those to be admitted to the program will be selected from among the qualified applicants at the sole discretion of the department's Graduate Studies Committee. Consideration will be given to paid or volunteer clinical job experience. In addition to the university application, a departmental application form, obtainable by mail from the Psychology Department's graduate office, must be completed and returned to that office.

Admission to Graduate Standing: Conditionally Classified

It may be possible for applicants who have minimal deficiencies in prerequisite requirements, as detailed above, but who are otherwise highly qualified, to be admitted in conditionally classified

graduate standing, with provisions made for removal of deficiencies prior to the granting of classified standing. For further information, consult the graduate program adviser.

Study Plan

First Year	*Units*
Psychology 501A and 501B Proseminar in Psychology	3–3
Psychology 531 Individual Mental Testing	3
Psychology 540 Proseminar in Community Psychology	3
Psychology 542 Proseminar in Clinical Psychology	3
Psychology 544A and 544B Psychodiagnostics	3–3
Psychology 546 Behavior Therapy	3
Second Year	
Psychology 560 Individual Therapy Techniques	3
Psychology 562 Group Therapy Techniques	3
Psychology 564A and 564B Field Work Seminar	3–3
Psychology 566A and 566B Field Work	4–4
Total	44

The student must maintain a B average in all coursework and must receive a grade of B or better in Psychology 501A and 501B.

It should be noted that faithful completion of the coursework, at whatever level of performance, is not sufficient to permit continuation in the program; both coursework and faculty judgment with respect to the student's effectiveness, professional behavior, and ethical behavior in dealing with potential clients must be satisfied. Once admitted, continuation in the program will be contingent upon satisfactory performance in all aspects of the program as judged objectively and clinically by the Clinical-Community Committee and the Graduate Studies Committee.

Following satisfactory completion of three semesters' coursework (34 units), the student will take a written comprehensive examination. A student is entitled to retake the examination only once if he or she fails in the first effort.

New students are admitted to the program in the fall semester. Those interested in applying should write to the Psychology Department's graduate office for departmental application forms.

PSYCHOLOGY COURSES

101 Introductory Psychology (3)

General introduction to basic concepts and problems in psychology. Topics include perception, learning, cognitive processes, development, motivation, personality, abnormal behavior, physiological and social psychology.

161 Elementary Statistics (3)

Descriptive statistics, hypothesis testing, analysis of variance, correlational techniques.

202 Research Methods in Psychology (3)

Prerequisite: Psych 101. A course for psychology majors emphasizing the fundamentals of research methods as they apply to basic areas in psychology. Students will participate in conducting experiments and analyzing data. (2 hours lecture, 3 hours laboratory)

302 Experimental Psychology: Learning and Motivation (3)

Prerequisites: Psych 101, 161, 202 or consent of instructor. Selected theoretical and experimental investigations in learning, memory, thinking, problem solving and motivation. (2 hours lecture, 3 hours laboratory)

303 Experimental Psychology: Sensation and Perception (3)

Prerequisites: Psych 101, 161, 202 or consent of instructor. Selected theoretical and experimental investigations in sensory and perceptual processes, including vision and audition. (2 hours lecture, 3 hours laboratory)

304 Comparative Animal Behavior (3)

Prerequisites: Psych 101, 161, 202 or consent of instructor. Selected theoretical and experimental investigations in animal behavior, including humans. The interspecies comparisons of behavior and sensory, motor, endocrine, and neural structures. (2 hours lecture, 3 hours laboratory; one or more field trips required)

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311 Educational Psychology (3)
Prerequisite: six units in psychology. Application of psychological research and theory to the educative process. Major attention given to the problems of learning, individual differences, intellectual capacities and behavior.

321 Experimental Psychology: Physiological (3)
Prerequisites: Psych 202 or Bio Sci 101 or equivalent. Anatomy and physiology of the nervous system, role of neural and humoral agents in complex behavior. Relation between behavioral and biological processes. (2 hours lecture, 3 hours laboratory)

331 Psychology of Personality (3)
Prerequisite: Psych 101. Broad survey of research, theory and assessment techniques in the area of personality.

341 Abnormal Psychology (3)
Prerequisite: Psych 101. Dynamics, symptoms, causes, treatment and prevention of neuroses, psychoses, alcohol and drug addiction, psychosomatic illnesses and character disorders.

342 Mental Health (3)
Prerequisite: Psych 101. An analysis of the concepts of mental health with emphasis upon positive factors in the individual, group and community which are conducive to improving mental health. Credit not given as part of psychology major.

350 Environmental Psychology (3)
Prerequisite: Psych 101 or consent of instructor. Survey of theory, research and method in the study of behavior-environment relationships. Study of the influence of such variables as population density and urban design on human behavior.

351 Social Psychology (3)
Prerequisite: Psych 101. Study of phenomena related to social behavior and the nature of group processes and influences. Topics include attitude formation and change, aggression, altruism, affiliation and socialization.

361 Developmental Psychology (3)
Prerequisite: Psych 101. Psychological and physical development of the person from birth through adulthood. Attention is given to theories, methods and research findings regarding the development of perception, cognition, learning, personality and social behavior.

391 Industrial Psychology (3)
Prerequisite: Psych 101. Study of traditional and current psychological principles and techniques in industrial and business settings. Includes selection, placement, training, work motivation, human factors, environmental influences, system safety, product liability, problems of people at work, organizational development and consumer behavior.

401 Behavior and Sexual Identity (3)
Prerequisite: Psych 101, and 331 or 361, or consent of instructor. Developmental, physiological, personality and cultural approaches to sex role behavior in men and women.

408 History of Psychology (3)
Prerequisite: senior standing. Survey of the development of psychology from early times to the present, emphasizing major traditions and conceptual issues.

411 Human Learning and Memory (3)
Prerequisite: Psych 302 or consent of instructor. Methodological and theoretical analysis of the acquisition, retention, and retrieval of information in human beings.

412 Psychology of Learning (3)
Prerequisite: Psych 302 or consent of instructor. Principles of learning according to the major theoretical systems. Critical evaluation of the theories and systems.

413 Perception (3)
Prerequisite: Psych 303 or consent of instructor. Psychological problems in perception.

415 Cognitive Processes (3)
Prerequisite: Psych 302, 303 or consent of instructor. Consideration of theory and research with respect to problem solving, thinking, concept learning, language, decision making and judgment, cognitive structure, cognitive development.

416 Motivation (3)
Prerequisite: Psych 302 or consent of instructor. Concepts and evidence concerning the activation and direction of behavior, including consideration of needs, wishes, drives, incentives and preferences.

417 Introduction to Psycholinguistics (3)
Prerequisites: six hours of upper division work in psychology or linguistics, or consent of instructor. Survey and analysis of psychological and linguistic approaches to the study of language. Innate and learned aspects of language development, motivational and social aspects of language, symbolism, language disorders and universals. (Same as Linguistics 417)

421 Advanced Topics in Physiological Psychology (3)
Prerequisite: Psychology 321 or consent of instructor. Selected topics in physiological psychology. Critical evaluation of theoretical positions and empirical findings in the physiological control of behavior. Topics will vary semester to semester.

431 Theories of Personality (3)
Prerequisite: Psych 331. Critical discussion and integration of traditional and contemporary theories of personality, including psychoanalytic, humanistic-existential, behavioral, trait and social interaction approaches.

441 Experimentation in Personality (3)
Prerequisite: Psych 331. Laboratory experience in personality research. Students will design and conduct experiments. Topics include creativity, projective tests as personality measures, experimental psychodynamics, personality structure and interpersonal judgment. Topics will vary according to preferences of students and instructor. (2 hours lecture, 3 hours laboratory)

451 Experimental Social Psychology (3)
Prerequisites: Psych 161 or equivalent, 202 and 351. Study of selected topics in social behavior, group processes and influences. Laboratory experiments in attitude formation and change; group processes such as communication, problem solving, and norm formation; interpersonal influence and perception. (2 hours lecture, 3 hours laboratory)

452 Interpersonal Processes (3)
Prerequisite: Psych 351 or Sociology 341, or consent of instructor. Theory and research on basic interpersonal processes (interpersonal judgment, communication, social performance, attraction and affiliation) and current models of interaction.

453 Attitude Formation and Change (3)
Prerequisite: Psych 351 or consent of instructor. An intensive study of the theories of attitude formation and change, stressing research methodologies and measurement strategies in this area. (2 hours lecture, 3 hours laboratory)

455 Small Group Processes (3)
Prerequisite: Psych 351. Theories and methods of research used in the study of small group phenomena.

459 Individual Differences (3)
Prerequisite: Psych 161. The nature, extent and correlates of human individual differences with an emphasis on methodology.

461 Group Psychological Testing (3)
Prerequisite: Psych 161 or equivalent. Intelligence, aptitude, interest, and personality testing. Theory, construction, evaluation, interpretation and uses of psychological tests.

463 Experimental Child Psychology (3)
Prerequisites: Psych 202 and 361 or the equivalents. Research methodology in developmental psychology. Critical examination of selected empirical studies. Design and execution of an original empirical investigation in an area of the student's choice. (2 hours lecture, 3 hours laboratory)

465 Analysis of Variance (3)
Prerequisite: Psych 161. Application of analysis of variance techniques to research design and evaluation of data.

466 Social Science Computer Applications (3)
Prerequisite: Quantitative Methods 289 or consent of instructor. The use of computers in psychology. Batch processing; interactive computing; on-line experimentation.

467 Correlational Methods (3)
Prerequisite: Psych 161. The theory and techniques of correlational analysis.

470 Behavior Modification (3)
Prerequisites: Psych 101, 341, and junior or senior standing. Recommended: Psych 202 or 302. Exposition and evaluation of theory, research, and procedures for human behavior modification. 3 hours lecture.

470-L Behavior Modification Laboratory (3)
Prerequisites: Psych 470 (may be taken concurrently), and consent of instructor. A laboratory experience in the natural environment where students apply the principles and procedures of behavior modification. 9 hours per week.

472 Community Psychology (3)
Prerequisites: Psych 101, 341, or consent of instructor. The theory and research in community psychology. A survey of a variety of programs developed within this model with an emphasis on their service delivery aspects and the methodology of program evaluation.

475 Psychopharmacology (3)
Prerequisite: Psych 321 or 15 units of biological science. Basic principles underlying the use of drugs and related substances to modify experience and behavior. Historical and cultural variations in drug usage. Psychological, medical and social potentialities and limitations of these techniques.

476 Psychophysiology of Mental Illness (3)
Prerequisites: Psych 341 and either 475 or 321 or six units of biological science or consent of instructor. The genetic, biochemical and neurophysiological bases of schizophrenia, affective and neurotic disorders; drug therapy of mental illness; relation of somatic therapy to other forms of psychiatric treatment.

481 Survey of Clinical Psychology (3)
Prerequisites: Psych 331, 341 and 461. Development and contemporary aspects of the field. Methods, diagnosis, therapeutic techniques, research, and problems.

491 Honors Project Laboratory (3)
Prerequisites: Psych 101, 161, 202, 302 and consent of departmental honors committee. Students will design and carry out an honors research project, and will discuss this project in the seminar.

492 Honors Seminar (3)
Prerequisite: Psych 491. An issue-oriented seminar focusing on broad conceptual problems in psychology. Discussion of a general problem, followed by student presentations of alternative approaches to that problem.

496 Student-to-Student Tutorials (1-3)
See page 88.

498 Independent Laboratory Research (3)
Prerequisites: Consent of instructor. Individually conducted laboratory investigation of a selected topic area of human or animal experimental psychology under the direction of a faculty member. No more than 3 units of credit towards the major.

499 Independent Study (1-3)
Prerequisites: completion of at least one upper-division laboratory course in Psychology and consent of instructor. Individual library study under direction of a faculty member. May be repeated for credit. No more than 3 units of credit towards the major.

501A Proseminar (3)
Prerequisite: admission to a psychology graduate program or consent of instructor. A course to prepare beginning graduate students for more advanced courses. Areas stressed are sensation and perception, physiological psychology and learning.

501B Proseminar (3)
Prerequisite: admission to a psychology graduate program or consent of instructor. A course to prepare beginning graduate students for more advanced courses. Areas stressed are personality, social psychology, and abnormal psychology.

510 Experimental Design (3)
Prerequisites: Psych 161, 465 and admission to a psychology graduate program or permission of instructor. Principles and methods of planning and carrying out systematic investigations on the behavior of complex organisms, interdependence of experimental design and statistical evaluation of results, and the opportunity for practice in formulation of testable hypotheses.

515 Psycholinguistics (3)
(Same as Linguistics 515)

520 Seminar: Experimental Psychology (3)
Prerequisites: Psych 465, 501A and admission to a psychology graduate program or consent of instructor. Study in depth of the data, methods, problems and current developments in sensation-perception; animal learning; human motor and verbal learning; thinking and problem solving; or motivation. May be repeated for credit.

521 Seminar: Personality (3)
Prerequisites: Psych 501B and admission to a psychology graduate program or consent of instructor. An intensive study of central problems in personality. May be repeated for credit.

522 Seminar: Developmental Psychology (3)
Prerequisites: Psych 361 and admission to a psychology graduate program or consent of instructor. Provides students with a thorough advanced-level introduction to theory and research in developmental psychology.

531 Individual Mental Testing (3)
Prerequisites: Psych 461 and admission to a psychology graduate program or consent of instructor. Study of the major tests of intelligence. Emphasis on practical experience in administration, scoring and interpretation of these instruments.

540 Proseminar: Community Psychology (3)
Prerequisite: admission to the M.S. Clinical/Community program. A seminar in community psychology covering its historical and philosophical roots, theoretical framework, research within the area, and selected current practical applications.

542 Proseminar: Clinical Psychology (3)
Prerequisites: Psych 481 (or equivalent); admission to M.S. Clinical/Community program. A general proseminar in clinical psychology, covering broad theoretical considerations as well as their relationship to clinical practice in testing, diagnosis, ethics, and psychotherapy.

544A Psychodiagnostics A (3)
Prerequisite: admission to the M.S. Clinical/Community program. A skills course in conducting diagnostic interviews, writing case histories, and giving and scoring objective diagnostic tests, and relevant issues in testing assessment. (2 hours lecture, 3 hours laboratory)

544B Psychodiagnostics B (3)
Prerequisites: admission to the M.S. Clinical/Community program and successful completion of Psychodiagnostics A. A laboratory course covering administration, scoring, and interpretation of traditional projective tests and relevant issues in testing assessment and research. (2 hours lecture, 3 hours laboratory)

546 Behavior Therapy (3)
Prerequisite: admission to the M.S. Clinical/Community program or consent of instructor. An advanced course in behavior influence. The student will design and execute project in a clinical setting. (2 hours lecture, 3 hours laboratory)

549 Medical Psychology (3)
Prerequisites: Psychology M.S. enrollment or consent of instructor; Psych 321 or equivalent. Various aspects of medical and somatic clinical psychology. Topics include neuropathology; psychosomatic, nutritional, endocrine, and developmental disorders; chemotherapy, biofeedback, etc. (2 hours lecture, 3 hours activity)

551 Seminar: Social Psychology (3)
Prerequisites: Psych 501B and admission to a psychology graduate program or consent of instructor. An intensive study of central problems and major theories in the field of social psychology. May be repeated for credit.

560 Individual Therapy Techniques (3)
Prerequisite: satisfactory completion of the first year's work in the M.S. in Clinical/Community Psychology program. A lecture and discussion class covering specific therapy techniques and general approaches to individual psychotherapy. Besides dealing with theoretical material, the student will be expected to question and discuss the material's practical application to the clients he or she is seeing in field work.

562 Group Therapy Techniques (3)
Prerequisites: satisfactory completion of the first one and one-half years' work in the M.S. in Clinical/Community Psychology program. A lecture and discussion class covering specific techniques and general approaches to group psychotherapy. Besides dealing with theoretical material, the student will be expected to question and discuss the material's practical application to the clients he or she is seeing in field work.

564A,B Field Work Seminar (3,3)
Prerequisite: satisfactory completion of first year's work in the M.S. in Clinical/Community Psychology program. A seminar and discussion class covering specific theoretical and applied problems arising from the student's field work experience. Must be taken concurrently with the appropriate field work course.

566A,B Field Work (4,4)
Prerequisite: satisfactory completion of first year's work in the M.S. program in Clinical/Community Psychology. Supervised clinical work experience in various mental health agencies. Must be taken concurrently with the appropriate field work seminar. Minimum of 12 hours field experience per week.

598 Thesis Research (3 or 6)
Prerequisites: formal advancement to candidacy and consent of instructor. Development of a proposal for a major piece of empirical research, execution of the study, analysis of the results, and writing of a thesis.

599 Independent Graduate Research (1-3)
Prerequisites: admission to a psychology graduate program and consent of instructor. Empirical research in a selected area of psychology. The study is designed, conducted and written by the student with the collaboration of a member of the faculty. May be repeated for credit.

DEPARTMENT OF RELIGIOUS STUDIES

FACULTY
Morton Fierman
Department Chair
Daniel Brown, Donald Gard, Joseph Kalir, George Saint-Laurent, James Santucci

BACHELOR OF ARTS IN RELIGIOUS STUDIES

This program is designed to encourage students to acquire the intellectual tools and scholarly background required for a critical understanding of the forms and traditions of religion that have appeared in human culture.

Students in fields other than religion are encouraged to ask the questions which pertain to the real excitement at the boundary lines where the usual studies converge. The aim of each course is an open and nontraditional examination of ultimate questions as they apply to contemporary situations. The relevance of belief in both Eastern and Western civilizations for the cultural development of man is examined. An understanding of prejudice, war and other dimensions of religious value systems may be gained.

Major in Religious Studies

Six hours of introduction to world religions and six hours of a senior seminar in two semesters on contemporary religious issues are required.

In addition, the student will be asked to choose at least six hours of courses in upper division studies from each of the following categories:

1. *The History and Sociology of Religion:* religion studied as a cultural phenomenon with the historical context; its development and controversies; religion and science; religion and economics; the sociology of religion

   Courses to be selected from:
   History: 412A,B, 417A,B, 425B, 466B
   Sociology: 458
   Anthropology: 421
   Religious Studies: 330, 331, 333, 334, 345A,B, 378, 405, 406, 415, 416, 430, 436, 445, 476, 480, 485, 486

2. *The Phenomenology of Religion:* religion as a human phenomenon; the psychology of religion; the philosophy of religion; religion and poetry, the arts.

   Courses to be selected from:
   Philosophy: 311, 323, 370
   Interdisciplinary Center: 402, 403, 404, 451
   Religious Studies: 335, 343, 375, 376, 377, 431, 433, 434, 450, 459, 475, 477, 480, 481, 485, 486

3. *Comparative Religion:* a study of religious traditions and practices in Western and non-Western cultures: religious scriptures; comparative theology; major religious figures.
   Courses to be selected from:
   Interdisciplinary Center: 303, 422
   Religious Studies: 330, 331, 332, 333, 334, 335, 360, 376, 415, 416, 430, 432, 435

Courses in other schools and departments may be acceptable upon consultation with the chair of the Department of Religious Studies.

Minor in Religious Studies

The minor in religious studies is composed of at least 20 upper division units in religious studies exclusive of the general education requirements. For further information, contact the department chair.

RELIGIOUS STUDIES COURSES

100 Introduction to the Study of Comparative Religion (3)

An introduction into the beliefs, thought-patterns and religious impact of prescientific people, especially those of the Australian aborigines, the African tribal communities, the North American Indians, the ancient Egyptians and Vedic Indians.

110 World's Great Religions (3)

Religious impulse as viewed from the philosophical standpoint. An attempt will be made to analyze and to compare religious experience as expressed in Christianity, Islam, Buddhism, Hinduism, Judaism, etc. (Same as Philosophy 110)

111 Problems in the History of Religious Thought (3)

Prerequisites: Philosophy 110 or consent of department chair. An examination of some of the perennial problems that have appeared in the religious traditions of both East and West.

150 Does God Exist? (1)

An examination of the classic answers to the question of God's existence together with the reasons behind them, whether based on faith or natural reason, within both eastern and western traditions.

200 Introduction to Christianity (3)

An examination of the Christian scriptures and their background in the light of modern exegesis with special emphasis on the Synoptic Gospels. The second half of the course will examine written creeds and liturgical formulae associated with the Orthodox, Roman and Protestant communions.

201 Origins of the New Testament (3)

The sources and content of the New Testament writings which reflect the life and beliefs of the Christians in the first century of the Common Era, including literary and historical criticism.

220 Introduction to Hinduism (3)

The origins, beliefs and religious life of the religion and culture known as Hinduism.

230 Introduction to Buddhism (3)

The origins, the basic precepts, and practice of Buddhism. Both *Hinayana* and *Mahayana* Buddhism will be discussed.

250 The Religion of Islam (3)

The religion of Islam, its background and main teachings: the rise of Islam, the caliphate, Islamic theology, teachings, mysticism and philosophy.

280 Sects and Cults (3)

Prerequisites: Philosophy 110 or Religious Studies 111 or consent of instructor. The origin, development and interrelations between Apollonian (Gnostic) and Dionysian sects in Western religion.

330 Judaism: From the Beginning to the Middle Ages (3)

The historical role of the religion of the Jews including the Genesis and the development of Judaism.

331 Judaism: From the Middle Ages to the Present (3)

The history and contemporary social significance of the religion of the Jews from the Middle Ages to the present, with emphasis upon contemporary Judaism. Special emphasis will be devoted to the distinctive characteristics of Orthodox, Conservative and Reform Judaism.

332 The Land of the Bible: Everyday Life in Old Testament Times (3)

How people lived in the Mediterranean world in the first century of the Christian era. To deepen the understanding and kindle the imagination of the readers of the Old Testament in the light of the staggering progress which has been made in Biblical archaeology during the course of the present century.

333A Hebrew Prophets: The Major Prophets of Israel (3)

Lectures and seminar discussions dealing with the cultural, historical, values of and contemporary application of Isaiah, Second Isaiah, Jeremiah, and Ezekiel. (Same as Comparative Literature 305)

333B The Minor Prophets of Israel (3)
Lectures and seminar discussions dealing with the cultural, historical, religious and political background of the Twelve Minor Prophets.

334 Wisdom Literature (3)
The interpretation of values in Proverbs, Job, Ecclesiastes, Ecclesiasticus, the Wisdom of Solomon, Egyptian and Mesopotamian Wisdom writers as applied to the modern world.

335 Christianity and Judaism (3)
Differences and similarities between Christianity and Judaism. A study of the age of transition from Judaism to Christianity with an emphasis on their respective origins and destinies.

343 The Bible and Its Ethics (3)
The principal features of the ethics of the Bible, its significance, its problems and its meaning for our modern times. The ideals of the ethics of the Bible and its approach to the problems in our society.

345A History and Development of Christian Thought: The Beginning to 1274 (3)
The development of Christian thought from apostolic times to the death of Thomas Aquinas against the background of Old and New Rome, the Great Councils, the Middle Ages, and the marriage of faith and reason.

345B History and Development of Christian Thought: 1275 to the Present (3)
Prerequisite: Religious Studies 345A or consent of instructor. The development of Christian thought from the death of Thomas Aquinas to the present, against the cultural and philosophical background of the successive ages of scholasticism, the renaissance, baroque, reason and revolution, and the modern world.

360 Religious Thought of Islam (3)
The various theologies of Islam, especially the theology of Mohammad derived from the Qur'an. Influence of biblical monotheism on Islam. Orthodoxy versus Rationalism in early Islam as well as in other schools and thoughts.

375 Religion and the Cultural Crisis (3)
The role of religion in contemporary cultural crises and in history with such topics as the development of the family unit, sexual relationships and forms of worship.

376 Dimensions of Religion (3)
The great themes of religious thought viewed objectively and subjectively in history and in the present day are studied as a basis for understanding religious relevance and application. Seminar and discussion presentation.

377 Religious Symbolism and Mysticism (3)
Discussion of symbols and ideas inherent in religious thought. Use of Jungian theory. Topics covered are myth, centering, grounding, mandala, internal religious space, life and death, spiritual energy, mother god, father god, child, etc. Theoretical and practical applications.

378 Directions in Biblical Archeology (3)
A survey of the present state of Biblical archeology which plays such a prominent part in our time. What archeology is. The definition of Biblical archeology and an evaluation of its recent discoveries, including the Dead Sea Scrolls.

379 Yoga (3) (Formerly 303)
A study of Yoga: its theories, literature and practices; some methods of meditation taught; its relevance for today's world.

405 Indian Religions (3)
Discussion of all the major religions of ancient India. Special emphasis will be placed upon the Upanisads, Buddhism and Vedanta. May be repeated for credit.

406 Indian Religions (3)
Prerequisite: Religious Studies 405 or consent of instructor. Discussion of all the major religions of ancient India. Special emphasis will be placed upon the Upanisads, Buddhism and Vedanta. May be repeated for credit.

415 Religions of China and Japan (3)
Prerequisite: Religious Studies 111 or Philosophy 110 or consent of instructor. The major religions of China and Japan will be discussed with special emphasis upon Taoism, Buddhism and Confucianism. Chinese influence on Japan and the Japanese reaction to this influence, also will be discussed.

416 Religions of China and Japan (3)
Prerequisite: Religious Studies 111 or Philosophy 110, Religious Studies 415 or consent of instructor.

The major religions of China and Japan will be discussed with special emphasis upon Taoism, Buddhism, and Confucianism. Chinese influence on Japan and the Japanese reaction to this influence, also will be discussed.

430 Rabbinic Literature: The Writings of Law and Lore (3)

The historical, sociological and cultural background of the beginnings of the Talmud. The Talmud as one basis of modern ethics. Special stress will be laid on: man as a moral being, free will, labor, justice, truth and truthfulness, peace, charity, parents and children, country and community.

431 Jewish Mythology, Religion and Mysticism (3)

Prerequisite: Religious Studies 331 or consent of instructor. The principal features of Jewish mysticism, its inner significance, problems and meaning. An analysis of some of its most important phases. A new illustration of the function which Jewish mysticism has had at varying periods, of its ideals and of its approach to the various problems.

432 The Worlds of Martin Buber, "The Philosophy and Theology of Martin Buber" (3)

A detailed and critical study of Buber's views concerning relationship of man to God and man to man.

433 Myth and Legend in Ancient Israel (3)

Prerequisite: Religious Studies 330 or consent of instructor. Comparative folklore and mythology of the Old Testament. The myths and stories of the Old Testament.

434 The Psalms (3)

Major concepts in the Psalm Literature; structure, authorship and style of individual Psalms; historical, theological, intellectual and political backgrounds of the Books of Psalms; the significance of the Psalms for our time.

435 Old Testament Criticism (3)

The Old Testament, its development and a literary study of its contents.

436 Women in Jewish Tradition (3)

A study of the role of women in Jewish tradition, from Bible times until the present, with special attention to her contributions and influences upon Judaism.

445 Religion in Western Culture (3)

An examination of groups and individuals whose writings and ideas have been formative in the development of Western culture from classic times to the present.

450 Ritual and Symbol (3)

Prerequisites: Philosophy 110, Religious Studies 111 or consent of instructor. A study of the nature of ritual and symbol in our culture, taking into account the contributions of psychology.

459 Radical Catholicism: Its theology, philosophy, and social movements (3)

The key personalities, writings and movements involved with Radical Catholicism in the 20th century, including the Catholic Worker Movement, priest-workers in France, the Dutch Church, Latin-American liberation theology and antiwar activism in the United States.

475 Anxiety, Guilt and Freedom (3)

The distinction between psychiatry and religious methods of understanding basic human emotions will be examined together with an analysis of terms such as "authority", "God", "faith", "forgiveness", "sin", "error", "repentance", "sex" and "absolution".

476 The Holocaust: The Destruction of European Jewry 1933-1945 (3)

The ordeal of European Jewry during World War II as reflected in art, music, drama, fiction, poetry, historical, psychological and religious writing.

477 Philosophical Foundations of Religious Education (3)

Philosophical foundations of education and their impact on contemporary educational theory and practice in religious schools in the United States and courses in religion in public schools and colleges and universities.

481 Zoroastrianism (3)

Prerequisite: Philosophy 110. A detailed account of the life and teachings of Zoroaster as presented in the *Avesta,* with a discussion of its relationship to Judaism, Christianity and the Greek philosophers Heraclitus, Pythagoras, Plato.

485 Major Contemporary Religious Thinkers (3)

Prerequisites: Philosophy 110, Religious Studies 111 or the equivalent. A detailed and critical study of religious thinkers contemporary to the modern world. May be repeated with different content for additional credit.

486 Major Contemporary Religious Topics (3)
Prerequisites: Philosophy 110, Religious Studies 111 or the equivalent. An in-depth inquiry into modern topics of a religious nature related to social, political psychological trends. May be repeated with different content for additional credit.

499 Independent Study (1-3)
Supervised research projects in religious studies to be taken with consent of instructor and the department chair. May be repeated for credit.

RUSSIAN AND EAST EUROPEAN AREA STUDIES PROGRAM

FACULTY
Robert Feldman
Program Coordinator
Dorothea Kenny (Comparative Literature), Marina Degtjarewsky (Foreign Languages), David Depew (Philosophy), Robert Feldman (History), Gary Guertner (Political Science), Ronald Helin (Geography), Karl Kahrs (Political Science), Harvey Mayer (Foreign Languages), Joyce Pickersgill (Economics), Otto Sadovszky (Anthropology), Ted Smythe (Communications), Elena Tumas (Comparative Literature), Bruce Wright (Political Science), Michael Yessis (Physical Education)

BACHELOR OF ARTS IN RUSSIAN AND EAST EUROPEAN AREA STUDIES

The Russian and East European area studies program is an interdisciplinary program designed for students whose interests and career objectives are in government service, communication, international business or education. The program provides students already majoring in an existing discipline or department (i.e., history, business, biology, etc.) the opportunity to have a *second major.* In addition, the program fulfills the various cultural objectives common to any liberal arts program.

To qualify for this major, a student must complete (1) 16 units of Russian language or their equivalent, (2) 24 units of upper division Russian area courses from at least four of the following fields: anthropology, comparative literature, economics, geography, philosophy, political science, history, foreign language, (3) 15 units of upper division coursework in a related discipline to be determined in consultation with a Russian area counselor. Students are encouraged to have these units apply toward a major in a traditional discipline.

The basic lower division courses also may be used to meet general educational requirements.

RUSSIAN AND EAST EUROPEAN STUDIES COURSES

All courses within the Russian and East European area studies program originate in other departments within the university. Students should refer to the department originating the course for description.

Anthropology
351 Peoples of Eastern Europe (3)
Communications
431 Mass Communications in Communist Systems (3)
Comparative Literature
318 Baltic and Slavic Mythology (3)
373 Masters of Russian Literature (3)
374 Contemporary Russian Literature (3)
Economics
330 Comparative Economic Systems (3)
331 The Soviet Economy (3)
391 Modernization of Russian Society (3)*
Foreign Language: Russian
316 Russian Civilization and Culture (3)
317 Advanced Conversation and Composition (3)
318 Advanced Composition and Grammar (3)
375 Introduction to Literary Form (3)
441 Tolstoy and Dostoevsky (3)
451 The Golden Age of Russian Literature (3)
461 Russian Literature from 1917 (3)
466 Introduction to Russian Linguistics (3)

Geography
338 Geography of the Soviet Union (3)
History
419 The Byzantine Empire (3)
434A Russia to 1890 (3)
434B Russian Revolution and the Soviet Regime (3)
436 The Balkans (3)
437 East Europe Since 1815 (3)
490 Seminar in Polish History (3)
490 Modernization of Russian Society (3)*
490 Seminar in Russian Revolution, 1917 (3)
Philosophy
382 Marx and Marxism (3)
Political Science
430 Government and Politics of East Europe (3)
431 Government and Politics of the U.S.S.R. (3)
443 Theory and Philosophy of Marxism (3)
452 Foreign Policy of the U.S.S.R. (3)

M.A. PROGRAM IN SOCIAL SCIENCES

FACULTY
Lawrence de Graaf (History)
Graduate Program Coordinator
Wayne Hobson (American Studies)

ADVISORY BOARD
Frank Bagrash (Psychology), Beverly Baker-Kelly (Criminal Justice), Carol Copp (Sociology), Glenn George (Geography), Wayne Hobson (American Studies), E. T. Jacob-Pandian (Anthropology), Boaz Namasaka (Afro-ethnic Studies), Gary Pickersgill (Economics), Joseph Platt (Chicano Studies), Jon Yinger (Political Science), Barbara Gromoll (student), Jennifer Miller (student), Giles Brown (Graduate Studies) *ex officio.*

MASTER OF ARTS IN SOCIAL SCIENCES

This degree encompasses a series of coordinated programs of graduate studies, which emphasize the examination of human behavior and its relation to social institutions. These programs have the common purpose of exposing students to diverse methodologies, establishing the relationship between disciplines, and providing the student with the opportunity to explore a selected area from a variety of intellectual perspectives.

The social sciences include the following related fields: Afro-ethnic studies, American studies, Anthropology, Chicano studies, criminal justice, economics, geography, history, political science, psychology and sociology.

This degree is designed to provide interdisciplinary insights and tools for those students who are interested in (1) pursuing careers in government and business; (2) elementary, secondary, or community college teaching in the area of social studies or any of the social sciences; (3) a graduate program to complement their undergraduate degree in social science, liberal studies, or any single department major within the social sciences; or (4) a custom-tailored program of advanced study in the liberal arts.

Prerequisites

A student may be admitted to the program in conditionally classified graduate standing with a baccalaureate degree from an accredited institution and a minimum grade-point average of 2.5 in the last 60 semester units attempted. Classified standing requires that a student have an undergraduate major or its equivalent in one of the social sciences, a GPA of 3.0 in upper division social sciences courses, and substantial work in the social science fields selected for study.† The graduate adviser will determine qualifications in these areas and may require 3-12 units of coursework beyond the study plan to compensate for deficiencies. A study plan must be developed and approved for admission to classified graduate standing.

* Students may sign up for this course for history credit under History 490 or economics credit under Economics 391.
† The prerequisite for "substantial work" will vary among departments and according to the specific courses within some departments. Lack of substantial work in one or more fields will not ordinarily bar a student from admission but will result in one or more additional courses being required before the student may be classified.

Study Plan

Of the 30 units of adviser-approved courses on the study plan, at least 18 must be in appropriate work at the 500-level. Coursework includes a required social sciences core (6 units), a multidisciplinary core of courses taken in at least two social science fields (18-21 units), and a project or thesis (3-6 units). Courses in the multidisciplinary core are selected by students in consultation with the program director and faculty in their areas of interest and should correspond to the focus they intend to pursue in the thesis or project. At least two fields should be represented in the 500-level courses.

The multidisciplinary core and Social Sciences 597 and 598 shall both have flexible values, 18 to 21 units for the multidisciplinary core and three to six units for thesis/project. The study plan would be either:

	PLAN I	PLAN II
Social Sciences core	6	6
Multidisciplinary core	18	21
Thesis/Project	6	3
Total units	30	30

	Units
1. Social Sciences core	6
500 The Social Sciences in the Modern World: Theories (3) *or* 502 Role of the Social Science Professional (3)	
501 The Social Sciences in the Modern World: Methods (3)	
2. Multidisciplinary core	18-21
Minimum 500-level units (9)	
Maximum upper division units (9-12)	
3. Project or Thesis	3-6
597 Project (3-6)	
598 Thesis (3-6)	
Every student will prepare a project or thesis on a topic approved by the director and the student's committee. See descriptions below for details. Both the project and the thesis must reflect the student's interdisciplinary effort.	
Total	30

Competency in a foreign language or in specific techniques (e.g., film-making) may be required in addition to the study plan in cases where the student's committee and the coordinator consider such competencies necessary for the student's particular focus. Such requirements will be stated no later than the time the student is advanced to classified status.

This degree program relates to various career options in the social sciences. Work experience in these careers may be gained under the social sciences internship course, and the project may be tailored around a career option. For further information concerning the program, consult the graduate program adviser.

See also "The Program of Master's Degrees" in this catalog and the *Graduate Bulletin*.

SOCIAL SCIENCES COURSES

385 Philosophy of the Social Sciences (3)
(Same as Philosophy 385)

500 The Social Sciences in the Modern World: Theories (3)
A seminar providing a philosophical and theoretical basis for graduate work in the areas of social science. It will focus on the interrelationships which exist among the various social sciences as they relate to man in his social, physical and political environment.

501 The Social Sciences in the Modern World: Methods (3)
Analytical comparison of the historical, humanistic and scientific methodologies in the social sciences. This seminar will also deal with the contemporary trends in the social sciences methods.

502 Role of the Social Science Professional (3)
Examination of the role of the social science professional in public and private organizations. Focus on questions of role identity, power and decision-making in organizations, relationships with

clients, and relationships to broader questions of social policy.

550 The Issues of Social Science: A Seminar for Teachers (3)

Examination of problems encountered in the utilization of social science literature by teachers. Emphasis on identification and clarification of major issues as presented in works in history and the social sciences written from an interdisciplinary perspective.

597 Project (3-6)

Individual direction by committee of faculty in research and preparation of either: a prototype of a nonacademic professional paper; or an innovative work in a media other than the written essay. Recommended for students planning to enter government agency or business.

598 Thesis (3-6)

Individual direction by committee of faculty in research and preparation of a written research essay which will reflect an interdisciplinary program of study. Recommended for students planning careers in higher education and research.

599 Independent Graduate Research (3)

Open to graduate students in social science with the consent of program adviser or coordinator. May be repeated for credit.

DEPARTMENT OF SOCIOLOGY

FACULTY

John Bedell
Department Chair

Takenori Aso, Donald Baker, Tony Bell, Dennis Berg, Jonathan Brower, Carol Copp, Helaine Feingold, Rosalie Gilford, Ronald Hughes, Hilla Israely, Perry Jacobson, Elliott Kushell, Pat Lackey, Michael Mend, G. Nanjundappa, Rae Newton, Myron Orleans, Bartolemeo Palisi, Houshang Poorkaj, Lorraine Prinsky, Gerald Rosen, Libby Ruch, J. Rex Smith, C. Michael Stuart, Clarence Tygart, Ernest Works, Troy Zimmer

BACHELOR OF ARTS IN SOCIOLOGY

The major in sociology provides knowledge about how groups, social positions and social ideologies affect people's behavior. This type of knowledge provides a good background for occupations in which people either supervise or help others, such as social work, government services business careers, and teaching. A B.A. in sociology prepares the student to do graduate work in sociology and related fields of study.

The major in sociology requires 36 units made up of 15 required units and 21 elective units. Twenty-seven units must be in upper division courses and there may be a total of nine lower division units.

The combination of Internship, Independent Study* and Social Welfare must not exceed 12 units of credit toward the major, and not more than six units in any one area may be counted toward the major. All undergraduate sociology majors must keep in periodic contact with the department adviser in order to assure orderly progression toward the degree objective.

Sociology 201 is prerequisite to all sociology courses.

	Units
Required courses:	15
Sociology 201 Introductory Sociology (3)	
Sociology 203 Introduction fo Sociological Analysis (3)	
This course is a prerequisite for Sociology 331A, 331B and 331X and should be taken prior to completion of the sophomore year.	
Sociology 331A,B Social Research Methods, Statistics for the Social Sciences (3,3)	
These courses or Sociology 331X should be completed before the student becomes a senior.	
Sociology 481 Sociological Theory (3)	

MINOR IN SOCIOLOGY

The minor consists of 21 units in sociology, distributed as follows:

Sociology 201 (3)
Sociology 202 or 411 or 413 or 431 (3)
Sociology 341 or 451 (3)

* Internship credit will be limited to 6 units per internship agency placement and 9 units total internship credit. Under special circumstances the student may petition for additional internship credit.

Sociology 477 or 480 or 481 (3)
Electives in sociology (9)

MASTER OF ARTS IN SOCIOLOGY

The program for this degree provides advanced study in general sociology. It offers an opportunity to broaden one's knowledge of society, to strengthen skills of sociological analysis and to do research in depth in an area of particular interest. It may be used as preparation for study toward the doctorate in sociology, for community college teaching, participation in research or for a variety of positions in business and industry, corrections, the community or government.

Prerequisites

Students must meet the university requirements for admission to graduate standing. Please see the section of this catalog on "Admission of Post-baccalaureate and Graduate Students."

In order to be accepted as a conditionally classified sociology major, students must have a GPA of 2.75 or better in the most recent 60 units of college work and a GPA of 3.0 (B) or better for all work in sociology. A minimum of 18 upper division units in sociology is required, including the following courses or their equivalents:

Sociology 331A Social Research Methods (design, collecting data) *and*
Sociology 331B Statistics for the Social Sciences (elementary statistics) *or*
Sociology 331X Social Research Methods (combines materials covered in 331A,B)
Sociology 481 Sociological Theory

Courses in methods, statistics and theory must have been completed within the last five years prior to application.

Students will be accepted as conditionally classified sociology majors with either course or GPA deficiencies. Deficiencies must be corrected, however, within one year of admission to the program.

Students will be classified upon the fulfillment of the above prerequisites, and after an approved study plan has been developed.

Study Plan

The study plan for the degree must be approved by the student's adviser and must include the following:

	Units
I. Sociology 502, Research Process: Requires the completion of a research project, including such elements as theory construction, hypotheses information, sampling, survey construction, data collection and data analysis *	3
II. Core requirements †	9
A. Sociology 530, Advanced Statistical Analysis. Prerequisite: Sociology 502. Advanced multivariate procedures, both inferential and correctional.	
B. Sociology 531. Advanced Methods and Measurements in Sociology. Prerequisite: Sociology 502. A critical analysis of basic problems of social research. Causal inferences, value bias and measurement, especially the construction of scales.	
C. Sociology 581, Theory. Examination of selected theories using the framework of the basic elements and key problems in constructing and evaluating sociological theories.	
III. Graduate seminars	
Three graduate seminars in sociology	9
Courses are chosen consistent with the student's goals	
IV. Related field, independent study/research, or graduate sociology	3
One upper division or graduate course in sociology or related fields (excluding internships if qualifying alternative is other than thesis). May be in independent study. Course is chosen consistent with student's goals.	

* Students must enroll in Sociology 502 their first semester in residence. The final examination in Sociology 502 will be developed by a standing committee of the Sociology Department. Student exams will be anonymous. This exam will be the screening exam. Successful completion of the screening examination (grade of A or B) is prerequisite to entering core courses, and prerequisite to advancement to candidacy. Students who do not successfully complete the examination will not be allowed to complete the graduate program. The exam may be taken no more than two times. No more than 12 units of graduate work (including Sociology 502) will count toward the master's degree until successful completion of the screening exam.

† Students must receive 3.0 average in core courses in order to complete the master's degree.

V. Qualifying alternatives ‡ 6

A. Sociology 596, Community College Symposium: A six-unit course covering introductory sociology, social problems, and marriage and the family, with emphasis upon teaching preparations. An oral examination is included.

B. Sociology 597, Project: Agency Placement (20 hours per week for one semester or 10 hours per week for two semesters.) Choice of this alternative will be limited by the availability of positions which meet the level of supervision and training for which credit may be given. Terminal evaluation will be an oral examination by the master's committee.

C. Sociology 598, Thesis (Expected of all Ph.D. oriented students) To complete the requirements, the candidate must successfully defend the thesis in an oral examination by a committee.

One of the above qualifying alternatives is chosen, consistent with the student's goals.

For further details and advisement, please consult the graduate program adviser for the Department of Sociology. See also "The Program of Master's Degrees" in this catalog and the *Graduate Bulletin.*

SOCIOLOGY COURSES

201 Introduction to Sociology (3)

A general introduction to the basic concepts of sociology, and the scientific study of human society. Among topics included are social interaction, culture, personality, social processes, population, social class, the community, social institutions and sociocultural change.

202 Social Problems (3)

Study of the extent, causes and consequences of a number of social problems, with emphasis on 20th-century America. Problems are viewed in the context of the changing society.

203 Introduction to Sociological Analysis (3)

Prerequisite: Sociology 201 or consent of instructor. A comprehensive introduction to the logical, conceptual and empirical foundations of a scientific analysis of human behavior. Emphasis on how the theoretical, empirical and statistical aspects of sociology are interrelated. These interrelationships will be applied to a few content areas in sociology.

300 Introduction to Social Welfare (3)

Prerequisite: Sociology 201 or consent of instructor. A survey of the history, philosophy and development of thought in social welfare; the social work methods (casework, group work and community organization); social work as a career objective; areas of social work practice; current availability of employment in the field and qualifications necessary.

331A Social Research Methods (3)

Prerequisite: Sociology 201, 203 or consent of department. Research design and methods of gathering data, especially by interview and questionnaire, are emphasized. Among other topics are the role of theory in research, and sampling methods and problems. In addition, the student will be introduced to the techniques and equipment essential to data processing and analysis.

331B Statistics for the Social Sciences (3)

Prerequisites: Sociology 201, Sociology 203 and 331A, or consent of department. Elementary statistical analysis of social data is emphasized, with some consideration of problems of measurement and of the writing of research reports. (2 hours lecture, 2 hours activity)

331X Social Research Methods (6)

Prerequisite: Sociology 201, Sociology 203, or consent of instructor. The content of Sociology 331A,B will be integrated. Students may take the course as a six-unit, one-semester course or as two consecutive courses of three units each. The content of this course is the same as Sociology 331A,B.

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‡ Students will be limited to applying one qualifying alternative to their degree. More than one alternative may be taken subject to availability of positions in the community college symposium and agency placement alternatives. Registration in these courses is limited to students who have completed at least 18 units of work toward the M.A. degree. Those 18 units must include the nine units of successfully completed core requirements.
Incompletes are not to be used in computing eligibility to enter qualifying alternatives.
In the agency placement alternative, no credit will be given to students for their previous or current employment.

341 Social Interaction (3)
Prerequisite: Sociology 201 or consent of instructor. Inquiry into the social and sociopsychological dimensions of group behavior and the socialization of the individual. Social interaction and its impact on the individual and personality formation.

342 Experimental Social Psychology (4)
Prerequisite: Sociology 201 and Sociology 203. For sociology majors who are unfamiliar with the experimental method. Focus will be on substantive sociological topics that are amenable to laboratory and field experimentation, and the design of such experiments. Practical aspects of conducting an experimental inquiry will be stressed.

345 Sociology of Communication (3)
Prerequisite: Sociology 201 or consent of instructor. Study of the social processes involved in communicating with symbols—verbal, visual and "body-language"—in both interpersonal settings and the mass media.

348 Collective Behavior (3)
Prerequisite: Sociology 201 or consent of instructor. Characteristics of crowds, mobs, publics. Analysis of social movements and revolutions, their relation to social unrest and their role in developing and changing social organization.

360 Human Ecology (3)
Prerequisite: Sociology 201 or consent of instructor. Ecological approach to social phenomena. Analysis of ecosystem in terms of interdependencies involving population, environment, technology and organization; an examination of social and demographic characteristics of simple and complex societies.

361 Population Problems (3)
Prerequisite: Sociology 201 or consent of instructor. Population composition, growth and movement. Social factors affecting birth rates, death rates and migration. Attention is given to the population of the United States and to selected areas of the world.

362 Population Analysis (3)
Prerequisite: Sociology 201 or consent of instructor. The demographic measures and concepts of the three basic factors of the population growth, viz., fertility, mortality and migration will be discussed as far as it is feasible without assuming from the students the knowledge of mathematics beyond high school algebra.

371 Urban Sociology (3)
Prerequisite: Sociology 201 or consent of instructor. The population and ecology, patterns of growth, institutions, characteristic social interaction, values and problems of the urban community.

400 Sociological Internship (1-3)
Prerequisite: Sociology 201 or consent of instructor. Supervised field experience in community agencies and institutions permitting application of relevant sociological material in practical settings. Prerequisites vary depending on specific internship, but would require students with good academic records and course background relevant to specific internship.

411 Criminology (3)
Prerequisite: Sociology 201 or consent of instructor. The extent, causes and control of criminal behavior. Includes study of the criminal law, causal factors and theories, correctional institutions, probation and parole, and preventive efforts.

413 Juvenile Delinquency (3)
Prerequisite: Sociology 201 or consent of instructor. Juvenile delinquency as a social problem. Sociological study of the causes of delinquent behavior, and programs of control, treatment and prevention.

414 Sociology of Public Health (3)
Prerequisite: Sociology 201 or consent of instructor. An introduction to the social and organizational context of health care in the American community: analysis of social forces, processes and relationships which influence or determine the nature of health service.

415 Sociology of Corrections (3)
Prerequisite: Sociology 201 or Sociology 411 or 413 or consent of instructor. Background for students interested in the study of specific social problems. The application of basic sociology to analyze current problems and programs in probation, parole and correctional institutions. Intended to provide a conceptual framework for students planning careers in the field of corrections.

416 Sociology of Alcoholism (4)
Prerequisite: Sociology 201 or Sociology 202. Successful completion of Sociology 451, 455 and 456

is advisable. Sociological analysis of alcoholism. The socioemotional causes and consequences of this type of drug addiction.

425 Comparative Social Change (3)
Prerequisite: Sociology 201 or consent of instructor. Analyses of theories of change, current trends in modern society and methods of prediction of change.

430 The Individual, Society, and Prejudice (3)
Prerequisite: Sociology 201 or consent of instructor. The social psychology of intergroup prejudice. An analysis of research and theory on the dimensions, causes, consequences and reductions of intergroup prejudice.

431 Minority Group Relations (3)
Prerequisite: Sociology 201 or consent of instructor. Study of racial, national and religious minorities, especially in the United States. Includes study of discrimination, prejudice, different patterns of intergroup adjustment, and attempts to change group status.

432 Afro-Sociology (3)
Prerequisite: Sociology 201 or consent of instructor. To identify and analyze the sociological factors which have greatly influenced the Afro-American society; and to explore the sociological factors which have conditioned the black psyches, consciousness and rage.

436 Social Stratification (3)
Prerequisite: Sociology 201 or consent of instructor. Social class structures and their functions. Different styles of life; determinants of class status; vertical social mobility; change in class systems.

442 Small Groups (3)
Prerequisites: Sociology 201 or Sociology 341, 342, or consent of instructor. Theories, methodology, and studies in the area of small group research. Covers such topics as communication channels, coalition formation, group cohesion, leadership and conformity in groups.

444 Contemporary Japanese Society (3)
Prerequisite: Sociology 201 or consent of instructor. An empirical, scientific analysis of contemporary Japanese society, examining social-psychological, social-structural, institutional, and cultural changes from a sociological perspective. Special emphasis will be placed on structural and institutional changes over a period of time.

449 Social Epidemiology (3)
Prerequisite: Sociology 201, Sociology 331B or consent of instructor. Analysis of the relationship of disease distributions and patterns to the demographic, social and cultural characteristics of a population.

450 Sociology of Sex Roles (3)
Prerequisite: Sociology 201 or consent of instructor. A sociological analysis of the effect of traditional and nontraditional sexual stereotypes on attitudes and behavior within the family, the educational system, the economic system and the legal system.

451 Sociology of the Family (3)
Prerequisite: Sociology 201 or consent of instructor. The family as a social institution. Historical and cross-cultural perspectives; social change affecting marriage and the family; analysis of American courtship and marriage patterns; the psychodynamics of family life.

452 The Sociology of Education (3)
Prerequisite: Sociology 201 or consent of instructor. The examination of education as a social process and a social institution. The topics will include the relationship between education as a social process and a social institution, between education and sociology, the social functions of education with emphasis on the socialization process, the school and the community, and the school as a social institution.

453 Child in American Society (3)
Prerequisites: Sociology 201 or consent of instructor. Sociocultural analysis of the child's role in America—focusing on peer group participation, sibling rivalry and sibling order. The child's duties and obligations, if any, are to be investigated as the societal attitudes toward the child's place in society.

454 Sociology of Aging (3)
Prerequisite: Sociology 201 or consent of instructor. Analysis of aging as a social process, with emphasis on sociological theories of aging, problems of adjustment, demographic changes and policy issues.

455 Medical Sociology (3)
Prerequisite: Sociology 201 or consent of instructor and upper division standing. Designed to provide the student with a comprehensive sociological perspective for interpreting medicine and medical behavior.

456 Mental Illness (3)
Prerequisite: Sociology 201 or consent of instructor. Sociological analysis of the process of production, recognition, and treatment of those behaviors commonly defined as mental illness. Mental illness, its diagnosis, definition and treatment are viewed and analyzed as social processes.

458 Sociology of Religion (3)
Prerequisite: Sociology 201 or consent of instructor. Theoretical analysis of religion as a social institution in complex societies. The structure and functioning of religious organizations; roles and role relationships; types of religious organizations and leadership; the relationships of religion to other social institutions; religion and social change.

460 Sociology of Death and Dying (3)
Prerequisite: Sociology 201 or consent of instructor. Dying as a social process; functions of bereavement behavior; fear of death and dying; death related rituals, demographic aspects of mortailty; American death acceptance-denial controversy.

463 Political Sociology (3)
Prerequisite: Sociology 201 or consent of instructor. Theoretical perspectives; nature of power and authority; social structure and political institutions; elites and decision making; social influences on political behavior; political movements.

464 Contemporary Social Issues (3)
Prerequisite: Sociology 201 or consent of instructor. Application of social conflict theory to the analysis of controversial social issues and contemporary revolutionary movements in the world today; including the conditions leading to the development of social protest; the ideologies, goals, strategies, and outcomes of revolutionary and reform movements.

465 Law and Society (3)
Prerequisite: Sociology 201 or consent of instructor. The law and lawyers in the context of human society. Law as formal social control, variations in legal systems, social change and selected areas of law, the legal profession.

466 Deviant Behavior (3)
Prerequisite: Sociology 201 or consent of instructor. An advanced course in which the wide range of behaviors socially defined as deviant are dealt with from a variety of theoretical perspectives. Behaviors covered include drug addiction, sexual deviance, delinquency, alcoholism and mental illness.

467 Sociology of Sport (3)
Prerequisite: Sociology 201 or consent of instructor. Examines the nature, position, functions, and growing importance of sport in contemporary industrial society. Particular emphasis given to the relationships between structure, variety, and extent of sport activity and other institutional sectors in society.

468 Sociology of Socialism (3)
Prerequisite: Sociology 201 or consent of instructor. Application of sociological concepts and theories to socialism in the modern world. Socialism as a social movement; its historical development; the strategies, goals, ideologies of socialist political parties; a survey of the economic, social, and political structures of contemporary socialist societies.

469 Modern Marxism (3)
Prerequisite: Sociology 201 or consent of instructor. The political, economic, and social thought of the principal Marxist theorists since Marx and Engels especially in Europe and America. The relationship of the varied Marxist schools of thought to the social thought of Marx and Engels and to non-Marxist social thought. The sociology of knowledge approach to interpretation of Marxist social thought.

470 Sociology of Occupations (3)
Prerequisite: Sociology 201 or consent of instructor. Major topics include: causes of unemployment; employment prospects; professions; labor unions and/or employee associations; and effects of work on the physical and mental health of workers.

473 Formal Organizations (3)
Prerequisite: Sociology 201 or consent of instructor. A sociological analysis of organizations such as schools, hospitals, industries, prisons and government industries. Included are such topics as

self-actualization and alienation, human relations, communication, leadership, conflicts within and between organizations and impact on democratic institutions and social change.

477 Social Behavior (3)

Prerequisite: Sociology 201 or consent of instructor. The behavioristic approach of B. F. Skinner and exchange theory are used to analyze social relationships in small groups. Focus on interaction, equality and inequality, personal attraction and deviance.

481 Sociological Theory (3)

Prerequisite: Sociology 201 or consent of instructor. A comprehensive survey of the main school of sociological thought, both European and American, with emphasis on systems of theory, methodology of theorists, cultural change and social institutions.

484 Using Computers in Sociology (3)

Prerequisites: Sociology 201, 203, 331A, 331B, 331X or consent of instructor. A course to provide basic competence in the use of "canned" statistical programs in data analysis. Special problems in research design and data preparation relevant to computer analysis will be explored.

485 New Research Perspectives—Secondary Analysis (3)

Prerequisites: Sociology 201, 331A, 331B, 331X or consent of instructor. Introduction to the special area of secondary analysis in social research. Possibilities for exploration, replication and extension will be assessed. Problems relevant to data retrieval and computer analysis will be explored using data from both small and large studies.

494 Directed Readings in Sociology (1-3)

Prerequisites: Sociology 201, upper division standing and 15 units of sociology completed. Readings in a specialized area are directed and supervised by a faculty member. Examination and individual conferences are required.

495 Senior Seminar (3)

Prerequisite: Sociology 201 senior classification. Open to sociology majors who have had the upper division coursework in the area of the seminar. Emphasis in the seminar will depend upon the particular specialty and training of instructor.

498 Seminar in the Sociology of Health Care Services Organizations (3)

Prerequisites: Sociology 201; 455 is recommended. Analysis of the organization and problems of health service programs and institutions.

499 Independent Study (1-3)

Prerequisites: Sociology 201, at least 12 hours of sociology and consent of adviser. Student selects an individual research project, either library or field. The student must take appropriate undergraduate prerequisites and enroll with an instructor whose recognized interests are in the area of the planned independent study. Conferences with the adviser as necessary, and the work culminated in one or more papers. May be repeated for credit.

501 Seminar: Selected Topics in Societal Structure and Process (3)

Prerequisite: consent of instructor. Analysis of a specialization within the study of society such as: socialization and personality; deviance; social change; institutional structure and process. May be repeated.

502 Research Process (3)

Requires the completion of a research project including such elements as theory construction, hypotheses formation, sampling, survey construction, data collection and data analysis.

511 Seminar in Crime and Delinquency (3)

Prerequisite: Sociology 411 or 413, or consent of department. Analysis of selected problems in the field of crime and delinquency with major emphasis upon independent investigation into the theoretical and research contributions on the causes, prevention and treatment of criminal and delinquent behavior.

530 Advanced Statistical Analysis (3)

Prerequisites: Sociology 331A,B or consent of instructor. Techniques most commonly utilized by sociologists but not covered in Sociology 331A,B are studied. The techniques deal primarily with multivariate analysis such as tests of significance, tests for interaction, measures of association, regression analysis and factor analysis.

531 Advanced Methods and Measurements in Sociology (3)

Prerequisites: Sociology 331A,B, or their equivalents, or consent of department. A critical analysis of basic problems of social research. Causal inferences, value bias and measurement, especially the construction scales.

533 Seminar in Intergroup Relations (3)
Prerequisite: Sociology 431 or consent of department. Analysis of relations among ethnic, racial and religious groups throughout the world. Analysis of processes leading to, sustaining, and associated with changes in relations among such groups.

541 Seminar in Social Interaction (3)
Prerequisite: Sociology 341 or consent of department. Advanced social-psychological study of social interaction, including sociological factors in personality development and analysis of primary group behavior.

542 Practicum in Sociological Experimentation (3)
Prerequisites: Sociology 342, 331A,B, or consent of instructor. Designed to meet needs of students who desire practical training in experimental sociology. Students in the seminar will design and conduct an experiment in all its phases, including selecting a testable hypothesis, designing the appropriate equipment, producing the data, analyzing the results, and preparing the final report.

551 Seminar in Family Interaction (3)
Prerequisites: graduate standing; Sociology 451 or consent of instructor. The family as a social institution. Roles, socialization and family interaction.

581 Theory (3)
Prerequisites: Sociology 481 or equivalent and consent of department. Examination of selected theories using the framework of the basic elements and key problems in constructing and evaluating sociological theories.

596 Community College Symposium (3–6)
Prerequisite: consent of adviser. Introductory sociology, social problems and marriage and the family with emphasis upon teaching preparation. Includes an oral exam.

597 Project: Agency Placement (3–6)
Prerequisite: consent of adviser. Twenty hours per week for one semester or 10 hours per week for two semesters. Choice of this alternative will be limited by the availability of positions which meet the level of supervision and training for which credit may be given. Includes an oral exam conducted by a master's committee.

598 Thesis (3)
Prerequisites: acceptance as a candidate for the M.A. in Sociology, and approval of the topic. Individual research under supervision, reported in a thesis, and defended successfully in an oral examination conducted by a faculty committee. Must be taken two semesters for a total of six units.

599 Independent Graduate Research (1-3)
Prerequisite: consent of graduate adviser and department. Individual research on either a library or empirical project, with conferences with the adviser as necessary, culminating in one or more papers. May be repeated for credit.

DEPARTMENT OF SPEECH COMMUNICATION

FACULTY
Wayne Brockriede
Department Chair

Richard Abrassart, Ralph Beckett, Herbert Booth, Daniel Crary, Robert Emry, George Enell, Joyce Flocken, Kaye Good, Lee Granell, Donald Kaplan, Lucy Keele, Emmett Long, Michael Metz, Max Nelson, E. Ray Nichols, Norman Page, Glyndon Riley, Judith Sanders, Philip Schreiner, Arden Thorum

Coursework in the Department of Speech Communication aims toward five goals: to assist the student's development of intellectual, social and political maturity by applying the principles of individual and group communication; to discover the relationships between human communication and other modes of human interaction; to provide students with theoretical understandings and functional skills which enable them to affect and critically assess social processes; to improve the quality and availability of professional services within the realm of human communication; to improve the quality of human interaction through better communication practices.

The major in speech communication for the bachelor of arts degree requires a minimum of 36 units, at least 24 of which must be in 300- and 400-level courses.

Course programs are planned (1) to prepare students who seek a liberal arts emphasis in speech communication as a means for becoming intellectually independent citizens and consumers, (2) to prepare students who seek to become communication specialists in business or government, (3)

to prepare students who seek to apply communication skills in the ministry, law, business or other areas in which effective communication is basic, (4) to prepare students for graduate study, (5) to prepare students for school, hospital, clinic, community center and private practice in communicative disorders.

Major in Speech Communication with Emphasis in Communication Theory and Process

Lower division requirements (6-12 units):

A course in public speaking: Speech Communication 102
A basic course in logic and evidence: Speech Communication 235

Upper division requirements:

Core Courses:
A course in speech communication research: Speech Communication 300
A course in group process: Speech Communication 324
A course in persuasion: Speech Communcation 334
An advanced course in argumentation: Speech Communication 335
A general course in communicative disorders: Speech Communications 342

Any three courses from among the following:
Courses in organizational communication: Speech Communication 333 and 425
A course in communication theory: Speech Communication 420
A course in rhetorical theory: Speech Communication 430
A course in rhetorical history: Speech Communication 434
A course in rhetorical criticism: Speech Communication 438

Electives in communication theory and process, adviser approved, to complete the major.

Major in Speech Communication with Emphasis in Communicative Disorders

Lower division requirements:

A course in public speaking: Speech Communication 102
A minimum of three units of electives selected from Speech Communication

Upper division requirements:

A course in speech communication research: Speech Communication 300
A course in persuasion: Speech Communication 334
A course in phonetics: Speech Communication 341
A general course in communicative disorders: Speech Communication 342
Courses in speech science: Speech Communication 343 and 344
An advanced course in communicative disorders: Speech Communication 441
A course in audiology: Speech Communication 463
Additional selection from the generic program in speech communication to complete 36 units.

PROGRAM LEADING TO THE CLINICAL REHABILITATIVE SERVICES CREDENTIAL

I. B.A. degree—major in speech communication with emphasis in communicative disorders (as outlined above) or equivalent preparation as approved by the department admissions committee. Electives to be selected from the generic program (see below).

II. Admission to the post-baccalureate credential program in speech communication.

III. Generic program and advanced specialization program in speech, language and hearing disorders will include but not be limited to the following:

Speech Communication 403 Speech and Language Development (3)
Speech Communication 443 Speech Pathology, B (3)
Speech Communication 451 Diagnostic Methods in Communicative Disorders (3)
Speech Communication 452 Therapeutic Procedures in Communicative Disorders (3)
Speech Communication 453 The Speech & Hearing Clinician as a Counsellor (3)
Speech Communication 464 Audiometry (3)
Speech Communication 465 Speech Reading & Auditory Training (3)
Speech Communication 542 Neurophysiologic Basis of Speech and Language (3)
Speech Communication 577 Childhood Language Disorders (3)
Six units of a communicative disorders seminar from among Speech Communication 571, 573, 574, 575

Related Areas:

Special Ed 371 Exceptional Individual (3)
Psychology 361 Developmental Psychology (3)
Linguistics 402 Advanced Phonetics (3) or
Linguistics 406 Descriptive Linguistics (3)
* Speech Communication 410 Perceptual and Cognitive Problems of the Speech and Language Handicapped Child (3)

Clinical Practice and Public School Practicum

Speech Communication 458 Basic Clinical Practice (3)
Speech Communication 558 Intermediate Clinical Practice (2)
Speech Communication 559A Advanced Clinical Practice (2)
** Post-baccalaureate 306 Public School Practicum in Communicative Disorders (4)
Post-baccalaureate 307 Speech and Hearing Service in the Schools (2)

MINOR IN SPEECH COMMUNICATION

For those who wish to have a minor in the field, the following speech communication courses are appropriate:

102, Public Speaking
138, Forensics
230, Contemporary American Speakers
235, Essentials of Argumentation and Debate
324, Small Group Communication
333, Communication in Business and Industry
334, Persuasive Speaking
335, Advanced Argumentation
336, Interviewing: Theory and Process
342, Survey of Problems in Communication
420, Communication Theory
430, Classical Rhetorical Theory
434, American Public Address
437, Internship: Organizational Communication
438, Principles of Rhetorical Criticism

Students desiring to pursue a minor in speech communication with application to a specific major are invited to consult with an adviser in the Department of Speech Communication.

MASTER OF ARTS IN SPEECH COMMUNICATION

The Master of Arts in Speech Communication is designed for students who have exceptional interest in and aptitude for study in the area of communicative disorders or communication theory and process. The objectives of the degree are to improve the student's academic and professional competence, to prepare the student for advanced graduate work toward the doctoral degree, to develop the student's research capabilities, to contribute to improvement in teaching or clinical skills, and to increase the student's knowledge in the specializations appropriate to his/her profession. The student is expected to demonstrate a high degree of intellectual competence and scholarly discipline, to evaluate critically, and to demonstrate mastery of the field of concentration.

Admission to Graduate Standing: Conditionally Classified

Applicants must meet the university requirements for admission in conditionally classified graduate standing: a baccalaureate degree from an accredited institution and a grade-point average of at least 2.5 in the last 60 semester units attempted (see section of Graduate Bulletin on admission of graduates for complete statement and procedures).

In addition, the following factors will be taken into consideration by the Graduate Committee in determining who shall be admitted to the program:

A. Background studies in speech communication or allied fields.
B. Grade-point average.
C. Letters of recommendation (preferably on department forms).

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* For special classroom authorization
** For special classroom authorization—must be in speech and language handicapped classroom

D. Professional objectives as presented in a student letter of intent.

Clinical Practice and Public School Practicum

Speech Communication 458 Basic Clinical Practice (3)
Speech Communication 558 Intermediate Clinical Practice (2)
Speech Communication 559A Advanced Clinical Practice (2)
** Speech Communciation 759 Public School Practicum in Communicative Disorders (4)
Speech Communication 760 Speech and Hearing Service in the Schools (2)

Admission to Graduate Standing: Classified

A student who meets the requirements for conditionally classified graduate standing, as well as the following requirements, may be admitted as a classified graduate upon the development of an approved study plan:

A. Enrollment in Speech Communication 500, Seminar in Speech Research.
B. Acceptance by a graduate advisory committee of no fewer than three members.
C. Completion and approval of a study plan of at least 30 units of advisory committee approved studies.
D. Successful completion of a classification interview to be accomplished prior to completion of no more than 9 units of studies approved by the student's graduate committee chair, and demonstration of effectiveness in initial graduate studies.

Study Plan

The degree study plan will include the following: (1) at least 30 units of advisory committee approved graduate studies, 15 units of which must be in 500-level courses; (2) each program will have at least 15 units in one of the areas of concentration; (3) a core of six units (Speech Communication 500, Seminar in Speech Research, taken very early in the program and 596, Non-Thesis Research *or* 598, Thesis); and 4) adviser-approved supporting courses in related fields where appropriate. A written comprehensive examination is required of all candidates.

For further information, consult the Department of Speech Communication.

See also "The Program of Master's Degrees" in this catalog and the *Graduate Bulletin.*

SPEECH COMMUNICATION COURSES

100 Introduction to Personal Communication (3)
An introduction to process variables crucial to the outcome of communication transactions. Emphasizes purposes and impact of communication, attitude formation, cognitive message elements, and affective message elements. Participation in research projects.

102 Public Speaking (3)
Theory and presentation of public speeches, including an analysis of determinants of comprehension and attitude formation; selection and organization of speech materials, development of delivery skills, and evaluation of message effectiveness. Student presentations required.

120 Meetings and Organizations (3)
The structure of organizations and the use of oral communication in meetings: management of and participation in groups, including use of parliamentary procedure and problem-solving techniques. Student presentations required. Non-majors in speech communication may repeat for credit.

138 Forensics (2)
Prerequisite: consent of instructor. Investigation and practice in the background, format procedures, and evaluation criteria of the various forensic events. Students must participate in at least two intercollegiate tournaments. May be repeated for credit. (More than 6 hours of classwork for each unit of credit)

200 Personal Communication (3)
Examination of interpersonal, small group, and public communication theory. Behavioral science research and simulation exercises utilized to generate understandings of self-other relationships and communication facilitation. Participation in research projects. Credit not given if student has completed Speech Communication 100.

202 Voice and Articulation (3)
Prerequisite: Speech Communication 100. Lecture: introductory study of voice and speech sound articulation processes and characteristics from the point of view of the speech sciences. Laboratory: student works toward development of flexibility in his own voice and articulation patterns.

** For special classroom authorization—must be in speech and language handicapped classroom

203 Effective Listening (3)
The presentation and discussion of the principal listening skills which help the individual to understand and to remember better the important ideas and attitudes of messages received.

230 Contemporary American Speakers (3)
Prerequisite: Speech Communication 100. Speeches of prominent figures are examined for motives, ideas and devices for managing discourse. Content analyzed to discover the extent to which the speeches reinforce or challenge traditional values.

235 Essentials of Argumentation and Debate (3)
Prerequisite: Speech Communication 100 or consent of instructor. Investigation of the forms and skills of debate in our society. Use of evidence and case construction are emphasized. Substantive and educational debate are considered.

300 Introduction to Research in Speech Communication (3)
Prerequisite: open only to speech communication majors. Designed to orient majors to the field of speech communication. Special emphasis is on understanding and using the body of professional literature in speech communication.

301 Speech for Teachers (3)
Prerequisite: Speech Communication 100 or graduate standing. Designed to help teachers to use speech and dramatized activities effectively in the classroom. The normal speech development of children is examined, and consideration is given to the identification and handling of speech, hearing and listening problems.

302 Communication with the Deaf
The history of the use of sign language with the deaf in the United States. Students develop skills in fingerspelling and Signing Exact English.

305 Liberal Studies in Communication Processes (3)
An interdisciplinary course which examines the nature of communication transactions. Emphasis will be placed on modes of intrapersonal, interpersonal, small groups and public communication, with extensional probes into real-life situations in the visual and performing arts; family, organizational and intercultural communication; and various public communication media. Not available to speech communication majors for credit.

309 Quantitative Research Design (1)
General introduction to empirical research methodology in speech communication theory. Focuses on empirical/scientific approach to the study of speech communication with emphasis on design, control and hypothesis testing.

310 Introduction to Data Analysis (1)
Prerequisite: Speech communication 309 or consent of instructor. General introduction to data analysis in speech communication research with emphasis on the application of commonly used statistics to hypothesis testing, and a consumer-oriented approach to the use of the computer as a practical research tool.

312 Intermediate Communication with the Deaf (3)
Prerequisite: Speech Communication 302 or consent of instructor. Further development of skills in Signing Exact English, interpreting signs and fingerspelling, and expressive translating.

324 Small Group Communication (3)
Prerequisite: Speech Communication 100. Application of small group and interpersonal communication theory and behavioral research findings. Emphasis on communication facilitation among individuals in task realization, including interpersonal needs, leadership, norms, roles, verbal and nonverbal messages, and group systems and procedures.

333 Communication in Business and Industry (3)
Prerequisite: Speech Communication 100. Investigtion of human behavior, structural demands and communication within organizations. Emphasis on application of theory and behavioral research as a framework for generating managerial communication competencies such as interviewing, briefings, conference leadership, and intergroup coordination.

334 Persuasive Speaking,(3)
Prerequisite: Speech Communication 102 or equivalent. Investigation of the problems and techniques of a series of speeches directed toward a predetermined goal: emphasis on progressive use of persuasive materials.

335 Advanced Argumentation (3)
Prerequisite: Speech Communication 235 or consent of instructor. Argument as applied to advocacy; special attention is given to logic and evidence as related to analysis of significant issues.

336 Interviewing: Theory and Process (1)
Theoretical and practical considerations for interviewing effectiveness in private and public sectors. Case analysis and simulation are utilized.

338 Intercollegiate Forensics (2)
Prerequisite: consent of instructor. Directed activity in debate and other forensic events. Participation in intercollegiate competition is required for credit. May be repeated for credit. (More than 6 hours of classwork for each unit of credit)

341 Introduction to Phonetics (3)
The analysis and classification of phonemes of American English; the use of the International Phonetic Alphabet; the various factors influencing articulation and pronunciation. Includes work in language laboratory.

342 Survey of Problems in Communication (3)
A survey of the subject matter and principles of communicative disorders, including the role of school personnel, classification of speech and hearing disorders. Observation, lecture, films and demonstrations are utilized.

343 Speech and Hearing Science, A (3)
The first course in speech and hearing science covers the following major units of study: normal embryology, basic neuroanatomy, basic neurophysiology, overview of the neurological basis of speech. (2 hours lecture, 3 hours laboratory)

344 Speech and Hearing Science, B (3)
Anatomy and physiology of the speech and hearing mechanisms, with emphasis on respiration, phonation, resonation, articulation and hearing. Normal functioning is stressed as a frame of reference for understanding disordered functioning. Laboratory experience.

402 Advanced Phonetics (3)
Prerequisite: Speech Communication 341. Advanced course in phonetics; provides intensive analysis of human speech sound production and narrow transcription. Sounds beyond the range of American English are considered. Students process taped materials and use instrumentation in laboratory experiences. (Same as Linguistics 402)

403 Speech and Language Development (3)
Prerequisite: Speech Communication 100 or graduate standing. Study of the normal aspects of phonology, morphology, syntax, and semantics of speech and language development from birth through childhood. Meets the language and speech development and disorders requirement for specialized preparation to serve as teachers of exceptional children. (Same as Linguistics 403)

420 Communication Theory (3)
Prerequisites: Speech Communication 300 and 324, or graduate standing, or consent of instructor. Examination of theoretical models and systems to describe, integrate, and evaluate the evolution of communication theory and measurement procedures utilized in the assessment of communication outcomes in theory generation.

425 Organizational Communication Dynamics (3)
Prerequisites: Speech Communication 309, 310 and 324. Investigates the inter-relationships between management and communication theories. Both the microsystems and macrosystems within an organization are emphasized in terms of intrapersonal, interpersonal, small group and organizational communication theories.

430 Classical Rhetorical Theory (3)
Prerequisite: six units of upper division public address courses to include 300. Examination of contributions of Greek and Roman rhetorical theorists, 4th century B.C. to 300 A.D., together with investigation of selected practitioners of the art.

432 Contemporary Rhetorical Theory (3)
Prerequisites: Speech Communication 300 and 430. Review of contemporary rhetorical theory with emphasis on the nature of persuasion as an important goal of communication.

434 American Public Address (3)
Prerequisite: six units of upper division public address courses. A rhetorical history of the United States from the colonial period to the present. The influence of selected speeches and speakers on the development of American culture.

437 Internship: Organizational Communication (3)
Prerequisites: any two of the following courses: Speech Communication 305, 324, 333, 420, 425 or consent of instructor. On site involvement with communication frameworks as they function in ongoing organizational settings. The student spends a specified number of hours per week

working in the organization as well as participating in seminar activities. Application for internship must be submitted prior to enrollment.

438 Principles of Rhetorical Criticism (3)
Prerequisite: Speech Communication 430. To assist the student in developing a personal, consistent, and justifiable set of general criteria for the evaluation of public address. The course focuses on criticism as a consistent act in a variable context, historical modes of criticism, issues in rhetorical criticism, and experiences in criticizing.

441 Speech and Language Pathology, A (3)
Prerequisites: Speech Communication 300 or graduate standing, 341, 342, 343, 344, or consent of the instructor. Study of dysarticulation, language disorders and stuttering. Emphasizes therapy designs based on multivariant descriptions of the child or adult communicative disorders: developmental, emotional, social, and organic variables are included.

443 Speech and Language Pathology, B (3)
Prerequisites: Speech Communication 300 or graduate standing, 341, 342, 343, 344, or consent of instructor. Study of communicative disorders relative to laryngeal, oromaxillofacial, and nervous system dysfunction. Etiologic, diagnostic and management aspects are considered.

451 Diagnostic Methods in Communicative Disorders (3)
Prerequisites: Speech Communication 300, 341, 342, 343, 344, and 441. Lecture and supervised demonstrations, directed toward the provision of techniques and procedures for the treatment of communicative disorders.

452 Therapeutic Procedures in Communicative Disorders (3)
Prerequisites: Speech Communication 300, 341, 342, 343, 344, and 441. Lecture and supervised demonstrations, directed toward the provision of techniques and procedures for the treatment of communicative disorders.

453 The Speech and Hearing Clinician as a Counselor (3)
Prerequisites: Speech Communication 342, 441, 463, or consent of instructor. Understandings of the dynamics of interviewing, conferencing and counseling. Expected outcomes are: effective use of numerous communication approaches in parent, family and client counseling; increased self-awareness; the guidance of those exhibiting communication disorders; and appropriate referral sources.

458 Basic Clinical Practice: Communicative Disorders (3)
Prerequisites: Speech Communication 341, 342, 343, 344, 441, 451, and 452, senior or graduate standing and approved application prior to semester of practicum. Practice in the application of diagnostic and therapeutic care to children and adults exhibiting communicative disorders.

463 Audiology (3)
Prerequisites: Speech Communication 343, 344, or consent of instructor. The nature of auditory functioning, physical and psychological. A detailed consideration of anatomy, pathology and treatment. A survey of rehabilitative methods, facilities and equipment. Partially fulfills the state requirements for public school audiometrist.

464 Audiometry (3)
Prerequisite: Speech Communication 463 or consent of instructor. Equipment, methods and procedures used in assessing air conduction and bone conduction auditory thresholds in a variety of situations. Partially fulfills the state requirements for public school audiometrist.

465 Speech Reading and Auditory Training (3)
Prerequisites: Speech Communication 341, 463, or consent of instructor. Historical background of lipreading, methods used in the visual reading of speech, and auditory training techniques used in the rehabilitation of the aurally handicapped.

466 Advanced Audiometry (3)
Prerequisites: Speech Communication 463, 464, or consent of instructor. Advanced audiometric procedures involving site of lesion testing, special procedures with children, special procedures with pseudohypoacusis and general advanced techniques.

467 Hearing Aids: Evaluation and Use (3)
Prerequisites: Speech Communication 463, 464 and 466. Physical and acoustic characteristics and specifications of electronic amplification. History and philosophies of hearing aid evaluation and selection. Laboratory and clinical applications of evaluation and use of hearing aids.

499 Independent Study (1-3)
Open to upper division students in speech communication with the consent of department chair. May be repeated for credit.

500 Seminar in Speech Research (3)
Prerequisites: Speech Communication 300 or equivalent; admission to M.A. program. Examination of research design and methods used in historical, descriptive and experimental research in speech communication.

504 Seminar: General Semantics (3)
Prerequisite: Speech Communication 404. An in-depth study, analysis, interpretation and criticism of some of the major concepts of general semantics as a theoretical construct of the influence of language on human action and interaction and the relationship of these concepts to other fields of knowledge. (Same as Linguistics 504)

520 Seminar in Group Communication (3)
Prerequisites: Speech Communication 324 and 420. Systematic probing of efforts to generate small group communication theory. Examination of small group variables, methods and outcomes, and group process as a learning tool.

525 Seminar in Organizational Communication (3)
Prerequisites: Speech Communication 324, 420, and 425, or consent of instructor. A systematic probing of theoretical postulates concerning managerial and organizational communication. Examination of research findings and case studies relating to communication determinants and organizational effectiveness. Emphasis on communicative relationships among individuals, the work unit, and the organization.

535 Seminar in Advocacy (3)
Prerequisite: Speech Communication 335. Critical analysis of significant texts and periodic literature relating to argumentation and advocatory discourse.

536 Seminar in Rhetorical Theory (3)
Prerequisite: Speech Communication 430. Analyses of selected rhetorical issues and treatises chosen to represent complementary or contrasting systems of rhetoric.

538 Seminar in Rhetorical Criticism (3)
Prerequisite: Speech communication 438. Analysis of existing rhetorical critical methodologies, methods and practice in developing a critical methodology, and in-depth analysis of new forms of rhetorical criticism.

539 Special Topics in Public Address (3)
Prerequisite: consent of instructor. A critical analysis or in-depth investigation of a topic selected by the students and/or instructor. May be repeated for credit.

542 Neurophysiologic Bases of Speech and Language (3)
Prerequisites: 343, 344 and 443, or consent of instructor. A systematic survey of mechanisms of the central and peripheral nervous systems underlying normal speech and language behavior.

544 Seminar in Communicative Disorders: Aphasia (3)
Prerequisites: Speech Communication 542 or consent of instructor; admission to M.A. program. Study of the etiology of aphasia, dysarthria, apraxia. Diagnosis of communication problems arising from brain-damage. Guest lecturers in the fields of aphasia, dysarthria, apraxia, stroke research, internal medicine.

558 Intermediate Clinical Practice: Communicative Disorders (2)
Prerequisite: Speech Communication 458 or equivalent, 443, 465, and approved application prior to semester of practicum. Intermediate clinical practicum in the on-campus Speech and Hearing Clinic for both children and adults exhibiting communicative disorders. Stressed are skills and procedures involved in diagnosis, therapy, report writing and record keeping.

559A Advanced Clinical Practice: Communicative Disorders (2)
Prerequisites: Speech Communication 542, 558, one other Seminar in Communicative Disorders, and approved application submitted prior to semester practicum. Advanced clinical practice under supervision with children and adults having communicative disorders. This off-campus program takes place within hospitals, clinics, centers and other areas of rehabilitation. All aspects of communicative disorders, speech, hearing and language are involved.

559B Advanced Clinical Practice: Communicative Disorders (2)
Prerequisite: Speech Communication 559A, approved application prior to semester or practicum, or consent of instructor. Additional advanced clinical practice, under supervision, in off-campus medical, clinical and community center facilities. All aspects of communicative disorders, speech, hearing, and language, are involved.

566 Differential Audiology (3)
Prerequisites: Speech Communication 463, 464, 466; admission to M.A. program. Examination and

application of selected audiometric procedures designed to yield differential information relative to site and auditory pathway lesion.

567 Seminar in Audiology (3)
Prerequisites: Speech Communication 463, 464, 466 or consent of instructor; admission to M.A. program. Investigation into a particular area or areas of audiology with selected problems. emphasis upon research and contributions within the framework of the seminar.

570 Seminar in Communicative Disorders: Oromaxillofacial Dysfunction (3)
Prerequisites: Speech Communication 441 and 443; admission to M.A. program. An in-depth review of related anatomical and physiological classification systems as well as diagnostic, therapeutic, and research considerations utilizing a multidisciplinary approach.

571 Seminar in Communicative Disorders: Stuttering (3)
Prerequisites: Speech Communication 441 and 443; admission to M.A. program. Selected problems in stuttering approaches through an investigation of the literature and experimental and clinical research.

572 Seminar in Communicative Disorders: Neuropathologies (3)
Prerequisites: Speech Communication 441, 443 and 542 or consent of instructor; admission to M.A. program. Selected problems in neuropathologies approached through an investigation of the literature and experimental and clinical research.

573 Seminar in Communicative Disorders: Voice (3)
Prerequisites: Speech Communication 441, 443, 542 or consent of instructor; admission to M.A. program. Selected problems in voice approached through an investigation of the literature and experimental and clinical research.

574 Seminar in Communicative Disorders: Articulation (3)
Prerequisites: Speech Communication 441, 443, 542 or consent of instructor; admission to M.A. program. Selected problems in articulation approached through an investigation of the literature and experimental and clinical research.

575 Seminar in Communicative Disorders: Mental Retardation (3)
Prerequisites: Speech Communication 441, 443, 542 or consent of instructor; admission to M.A. program. Investigation of various classifications, etiologies, diagnostic and management programs including sociologic, vocational and psychologic factors as they relate to communicative disorders of the mentally retarded population.

577 Seminar in Communicative Disorders: Childhood Language Disorders (3)
Prerequisite: Speech Communication 542. Explores methods of describing and managing language pathologies in children via lecture, case presentation, and review of current literature.

596 Non-Thesis Research (3)
The investigation and reporting of an approved individual research study, under the supervision of the chairman of the student's advisory committee.

598A,B,C Thesis (2,2,2)
Prerequisite: Speech Communication 500. The selection, investigation, and written presentation of a selected problem in the field of speech.

599 Independent Graduate Research (1-3)
Prerequisites: graduate standing and consent of chair. Open to graduate students with consent of department chair. May be repeated for credit.

SPEECH COMMUNICATION EDUCATION COURSES

442 Teaching Speech in the Secondary School (3)
Prerequisite: admission to teacher education. Objectives, methods, and materials for teaching speech in secondary schools. Required, before student teaching, of students presenting majors in speech for the standard teaching credential.

449A Student Teaching in Speech Communication in the Secondary School (10)
See description under Division of Teacher Education.

449B Student Teaching Seminar (2)
See description under Division of Teacher Education.

POST-BACCALAUREATE COURSES

306 Public School Practicum in Communicative Disorders (4)

Prerequisites: Speech Communication 559A, concurrent registration in Speech Communication 307, application approved prior to semester of practicum, 165 clock hours of clinical practice and graduate status. Experiences include working in small groups and in individual therapy sessions with speech and hearing handicapped children enrolled in regular school classes, participation in parent counseling conferences and conferences with school personnel including administrator, classroom teachers, and nurses. Planning of curriculum materials to integrate speech and hearing therapy with regular classroom instruction will be stressed. This meets the directed teaching requirements for the Clinical Rehabilitative Services Credential.

307 Seminar: Speech and Hearing Service in the Schools (2)

Prerequisite: consent of instructor. Problems and challenges unique to the student clinician in the organization and management of the speech and hearing program in the school. Course includes study of the clinician's role, planning, scheduling, case finding, treatment program reporting and other responsibilities.

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mathematics science and engineering



SCHOOL OF MATHEMATICS, SCIENCE AND ENGINEERING

Acting Dean: David L. Walkington
Acting Associate Dean: Michael H. Clapp

The School of Mathematics, Science and Engineering is comprised of seven departments (Biological Science, Chemistry, Computer Science, Earth Science, Mathematics, Physics and Science Education) and the Division of Engineering which includes three disciplines (Civil Engineering and Engineering Mechanics, Electrical Engineering, and Mechanical Engineering). The bachelor of arts degree is offered in the Departments of Biological Science, Chemistry, Earth Science, Mathematics and Physics; and the bachelor of science degree is offered in the Departments of Chemistry and Computer Science, and in the Division of Engineering. A master of arts degree may be earned in the Departments of Biological Science, Chemistry and Mathematics, and a master of science degree in the Department of Computer Science and the Division of Engineering.

The school offers well-rounded programs allowing students to gain a breadth of knowledge and providing the necessary stimulus and coursework to begin in-depth specialization. In addition several curricula are interdisciplinary in design and present an integration of subjects most relevant to professions combining mathematics, science and engineering.

There is a Science and Engineering Advisory Council for the school composed of distinguished leaders in industry, education and the health professions from the community. (See section on Advisory Councils.)

ASTRONOMY

(Offered by the Department of Earth Science and the Department of Physics)
See departmental descriptions for the following courses:

Earth Science
350 General Astronomy (4)
450 Planetary Science (3)

Physics
300 Introduction to Astronomy (4)
350 General Astronomy (4)
414 Solar and Planetary Physics (3)
415 Astrophysics (3)

DEPARTMENT OF BIOLOGICAL SCIENCE

FACULTY
Marvin Rosenberg
Department Chair

Phillip Adams, Natalie Barish, L. Jack Bradshaw, Bayard Brattstrom, Jack Burk, Calvin Davenport, David Fromson, Ted Hanes, Michael Horn, C. Eugene Jones, Judy Kandel, R. Koch, Charles Lambert, Miles McCarthy, Lon McClanahan, Kenneth McWilliams, Steven Murray, William Presch, Marvin Rosenberg, Alvin Rothman, Roger Seapy, James Smith, Donald Sutton, George Turner, David Walkington,* Robert Wample, Joel Weintraub, Jerome Wilson

The Department of Biological Science offers a program leading to the Bachelor of Arts in Biological Science for students preparing to enter graduate and professional schools, for those preparing to teach, and for those preparing for careers in industry and government service.

It is the conviction of the faculty in biological science that the purposes of all these students can best be served by building their curricula on a core of courses fundamental to the science of biology. This core curriculum includes botany, zoology, microbiology, genetics, and cell and molecular biology.

* University administrative officer

In considering the curricula beyond this core of subjects, the faculty has agreed that the interest and goals of individual students can best be satisfied through individual advising rather than through prescribed programs. After discussion with their advisers, students will elect those upper division courses which will satisfy their individual interests and professional goals.

To qualify for a baccalaureate degree in biological science students must have a 2.0 overall average in all required related courses. No credit toward the major will be allowed for biological science courses in which a grade D is obtained. Courses taken under the Credit/No Credit grade option may not be applied towards the major.

Upper division students will be permitted to enroll in Biol 480, Advanced Topics in Biology, and Biol 499L, Independent Laboratory Study. All full-time upper division students are expected to attend the departmental seminars.

BACHELOR OF ARTS IN BIOLOGICAL SCIENCE

A total of 124 units including general education, 38 units in *biology courses,* and *supporting courses* in physical sciences and mathematics are required for completion of the B.A. in Biological Science. The *supporting courses* must include one year of inorganic college chemistry including qualitative analysis with laboratory, two semesters of organic chemistry with laboratory, one semester of college calculus, and one year of college physics with laboratory;* a 2.0 overall average must be maintained in supporting courses.

All biology majors are urged to seek advisement through the Department of Biological Science Office. Students may choose an area of emphasis in botany, cell and molecular biology, ecology, genetics, health professions, marine biology, microbiology or zoology. Health professions advisement is provided to those students emphasizing predental, premedical and preoptometry or to those concentrating in medical biology.

Students majoring in biological science or the preprofessions with no previous college-level biology courses are expected to take the Biological Science Placement Examination. Time and place for the examination are announced in the *Class Schedule* each semester. Students who do not pass the Placement Examination are urged to take Biol 101 Elements of Biology before taking Biol 141 or 161. Biol 101 does not count toward the major.

Minimum Course Requirements for the Major *

Lower Division	*Units*	*Total Units*
Biol 141 Principles of Botany	4	
Biol 161 Principles of Zoology	4	
	8	8
Upper Division:		
Biol 302 General Microbiology	4	
Biol 312 Genetics	3	
Biol 315 Cell and Molecular Biology	5	
Electives: 18 units of upper division courses of which four units must be outside area of emphasis, and must include four units (12 hours) of laboratory and/or field work.	18	30
	30	38

Students are strongly advised to complete Biol 141 and 161 as soon as possible and to complete Biol 302 and 312 prior to Biol 315.

Suggested Program for the B.A. in Biological Science

First Year

Semester 1	*Units*
Biol 141 Botany or Biol 161 Zoology	4
Chem 101A General Chemistry	5
Math 130 or 150A* Calculus	4
General education courses	3
	16

* Those students seeking careers in biology at the Ph.D. level and careers in medicine should take a full year of organic chemistry, a year of analytical geometry and calculus, quantitative chemistry and laboratory, and obtain a proficiency in one modern foreign language or advanced courses in computational sciences.

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Semester 2

Biol 141 Botany or Biol 161 Zoology	4
Chem 101B General Chemistry	5
Math 150B * Calculus	4
General education courses	3
	16

Second Year

Semester 3

Chem 301A, 302A Organic Chemistry	4
Biol 302 Microbiology or Biol 312 Genetics	4 or 3
General education	8
	16 or 15

Semester 4

Chem 301B, 302B or 302 Organic Chemistry	4
Biol 302 Microbiology or Biol 312 Genetics	4 or 3
General education	8
	16 or 15

Third Year

Semester 5

Physics 211A, 212A Elementary Physics	4
Biol 315 (or Biol elective)	5
Electives **	4
General education	3
	16

Semester 6

Physics 211B, 212B Elementary Physics	4
Biol 315 (or Biol elective)	5
Electives **	4
General education	3
	16

Fourth Year

Semester 7

Electives **	15
	15

Semester 8

Electives **	14
	14

SUGGESTED ELECTIVE COURSES FOR AREAS OF EMPHASIS

Botany

Biol 340 Field Botany (3)
Biol 342 Plant Anatomy (4)
Biol 344 Plant Morphology (4)
Biol 352 Plants, Man and Life (3) and 352L (1)
Biol 353 Principles of Horticulture (2) and 353L (1)
Biol 406 Biometry (4)
Biol 441 Plant Taxonomy (4)
Biol 443 Plant Ecology (4)
Biol 444 Plant Physiology (4)
Biol 445 Mycology (4)
Biol 446 Phycology (4)

Cell and Molecular Biology

Biol 405 Developmental Biology (4)

* The suggested preprofessional program includes a second semester of calculus. Math 130 is not equivalent to Math 150A.
** Awarding of the B.A. in Biological Science requires that 40 units must be upper division, of which 18 units must be in biology.

Biol 410 General Cell Physiology (4)
Biol 413 Molecular Genetics (3) and 413L (1)
Biol 424 Immunology (4)
Biol 507 Molecular Evolution (3)
Selected microbiology courses
Chem 351 Biochemistry (4) or 421A,B Biological Chemistry (3,3)
Physics 311 Introduction to Molecular Biophysics (3)

Ecology
Biol 316 Principles of Ecology (3) and 316L (1)
Biol 401 Biogeography (3)
Biol 406 Biometry (4)
Biol 419 Marine Ecology (4)
Biol 439 Microbial Ecology (4)
Biol 443 Plant Ecology (4)
Biol 465 Animal Ecology (4)

Genetics
Biol 312L Genetics Laboratory (1)
Biol 406 Biometry (4)
Biol 412 Population Genetics (3)
Biol 413 Molecular Genetics (3) and 413L (1)
Biol 414 Advanced Human Genetics (4)

Marine Biology
Biol 406 Biometry (4)
Biol 419 Marine Ecology (3) and Marine Ecology L (1)
Biol 420 Biology of Marine Plankton (4)
Biol 421 Biology of Marine Nekton (4)
Biol 446 Phycology (4)
Biol 461 Invertebrate Zoology (4)
Biol 475 Ichthyology (4)

Medical Biology
Biol 323 Biology of Venereal Disease (1)
Biol 361 Human Anatomy (4)
Biol 423 Pathogenic Microbiology (4)
Biol 424 Immunology (4)
Biol 425 Pathobiology (4)
Biol 426 General Virology (3)
Biol 426L General Virology Laboratory (1)
Biol 427 Medical Mycology (4)
Biol 445 Mycology (4)
Biol 462 Parasitology (4)
Biol 468 Comparative Animal Physiology (4)
Biol 469 Hematology (3)

Microbiology
Biol 323 Biology of Venereal Disease (1)
Biol 406 Biometry (4)
Biol 423 Pathogenic Microbiology (4)
Biol 424 Immunology (4)
Biol 425 Pathobiology (4)
Biol 426 General Virology (3) and 426L (1)
Biol 427 Medical Mycology (4)
Biol 432 Microbes and Food Production (2)
Biol 433 Microbial Problems in Food (2)
Biol 436 Advanced General Microbiology (4)
Biol 439 Microbial Ecology (4)
Biol 445 Mycology (4)
Biol 460 Protozoology (4)
Biol 462 Parasitology (4)
Biol 469 Hematology (3)

Zoology

Biol 360 Biology of Human Sexuality (1)
Biol 401 Biogeography (3)
Biol 403 Biosystematics (4)
Biol 404 Evolution (3) and 404L (1)
Biol 405 Developmental Biology (4)
Biol 406 Biometry (4)
Biol 407 Seminar in Human Sexuality (3)
Biol 415 Neurobiology (3)
Biol 461 Invertebrate Zoology (4)
Biol 463 Comparative Vertebrate Anatomy (4)
Biol 464 Embryology (4)
Biol 465 Animal Ecology (4)
Biol 466 Animal Behavior (3) and 466L (1)
Biol 467 Entomology (4)
Biol 468 Comparative Animal Physiology (4)
Biol 469 Hematology (3)
Biol 472 Comparative Histology and Techniques (4)
Biol 473 Biomechanics (4)
Biol 474 Natural History of Vertebrates (4)
Biol 475 Ichthyology (4)
Biol 476 Herpetology (4)
Biol 478 Mammalogy (4)
Biol 479 Ornithology (4)

Teaching Credentials Requirements

Students planning on entering the science education program for secondary school science teaching credentials must take a prescribed program of courses, which includes all of the requirements for the Bachelor of Arts in Biological Science except for a reduction of 8 of the 18 units of biology electives. In addition, the student must take the following courses: Earth Science 101, Education-TE 440F, Education-TE 440R, Education-TE 440S, Science Education 312, Science Education 442, Science Education 449A, Science Education 449B.

Students completing the prescribed program in biological science for teachers are eligible to teach in the physical sciences as well.

MASTER OF ARTS IN BIOLOGY

The program for this degree is based on the assumption that modern science necessitates broad preparation through the master's level of training. It permits breadth of preparation and at the same time concentration in an area such as botany, microbiology or zoology. In design it offers sufficient breadth and depth to strengthen the student's academic understanding and improve his competence for (a) advanced graduate work toward the doctoral degree in biological science, (b) teaching at all levels—elementary, secondary and community college, (c) participating in research programs, (d) participating in various field service and conservation positions with both the state and national governments, (e) entering the field of public health service, or (f) technological work in the health sciences.

Admission Requirements

An applicant must meet the university requirements for admission in conditionally classified graduate standing: a baccalaureate degree from an accredited institution and a grade-point average of at least 2.5 in the last 60 semester units attempted (see section of this catalog on admission of graduates for complete statement and procedures). In addition to the university requirements for admission in conditionally classified graduate standing, acceptance for this program is contingent upon the following: (1) a B.A. in Biological Science or related area at Cal State Fullerton or other accredited institution with a grade-point average of 3.0 in biological science courses and a GPA of 2.5 in the related courses in mathematics, chemistry and physics; (2) acceptance by a thesis adviser; and (3) satisfactory scores on one of the following: (1) Graduate Record Examination Aptitude Test and the Advanced Test in Biology; (2) Medical College Admission Test; (3) Dental Admission Test. Students with limited subject or grade deficiencies may be considered for conditional acceptance to the program. Conditionally classified graduate standing may be removed upon completion of nine units of adviser and graduate committee approved postgraduate studies in biology, mathematics, chemistry or physics, with a GPA of 3.0.

Students should achieve classified graduate standing as soon as they are eligible, since no more than nine units of graduate work taken before classification can be included on the study plan (see below) for the degree. A student who meets the admission requirements may apply for classified standing, which includes the development of an approved study plan.

Advancement to candidacy for the M.A. in Biology will be granted after:

1. Completing 12 units of coursework on the study plan with a GPA of 3.0.
2. Thesis program selected and approved by student's thesis committee.
3. Approval by departmental graduate committee upon recommendation from the thesis adviser and committee.

Study Plan

A study plan includes 30 units of adviser-approved graduate work, at least 15 of which must be at the 500-level. All study plans must include Biol 599, Independent Graduate Research, and Biol 598, Thesis, and at least one departmental seminar. Six units must be outside the principal area. Required is a thesis or a published paper, or a paper accepted for publication, acceptable to the adviser and committee, covering a research problem. A final oral examination on the student's research is also required.

Supervising the work of graduate students requires the personal attention of advisers. To insure that advisers are available for new graduate students a graduate student is expected to complete the requirements for graduation within three years after classification.

Students who are graduate assistants should complete the classification step either prior to appointment or during their first semester of appointment. They must become classified before being reappointed.

For more detailed information or advisement, students should contact the Biological Science Department, or the graduate program adviser of the Biological Science Department. See also "The Program of Master's Degrees" in this catalog and the *Graduate Bulletin.*

BIOLOGICAL SCIENCE COURSES

101 Elements of Biology (5)

An introduction to basic concepts in the study of living organisms and to the characteristics of the natural environment. One or more field trips required. (3 hours lecture, 6 hours laboratory–discussion)

102 Crisis Biology (3)

Presents to the student basic biological knowledge necessary for understanding our current environmental and health problems. With this information the ecology of humans is analyzed and biological problems are discussed. Designed primarily for the non-science major. (3 hours lecture)

141 Principles of Botany (4)

A survey of the plant kingdom with emphasis on the dynamic nature of plants as revealed by their anatomy, morphology, physiology, evolution, and ecology. Required of all biological science majors. (2 hours lecture, 6 hours laboratory)

161 Principles of Zoology (4)

A survey of the animal kingdom with special reference to the structure, classification, phylogeny, physiology, behavior and ecology. Required course of all biological science majors. (2 hours lecture, 6 hours laboratory)

302 General Microbiology (4)

Prerequisites: completion of lower division biology core courses and one year of college chemistry. The study of morphology, growth, and physiology of bacteria and other microorganisms, and consideration of microbial interactions with other organisms, including humans. Required course of all biological science majors. (2 hours lecture, 6 hours laboratory)

311 Human Reproduction—Biology and Social Change (2)

Prerequisite: one course college biology or consent of instructor. The anatomy and physiology of human reproductive systems; conception and contraception; pregnancy, embryonic development and birth; and changes in human sexual behavior occurring with social change. (2 hours lecture)

312 Genetics Lecture (3)
Prerequisite: one year of college biology or consent of instructor. The general principles and modern developments in the study of heredity. Course designed for biological science majors: nonmajors see Biol 313. To be taken prior to Biol 315. (3 hours lecture)

312L Genetics Laboratory (1)
Prerequisite: Biol 312. The use of a variety of organisms and methods for exploring basic principles of genetics. (3 hours laboratory)

313 Human Genetics (3)
Prerequisite: Biol 101 or equivalent. Principles of heredity with emphasis on methods of analysis on interaction of genes and environment, and on gene populations in humans. No credit toward biological science major (see Biol 414). (3 hours lecture)

314 Human Issues in Genetics (1)
Prerequisite: one semester of college biology. Biological basis for decisions relating to detection and treatment of genetic defects, human and fetal research, and eugenics. Legal and ethical problems raised by such decisions are discussed. (3 hours lecture and discussion per week for 5 weeks)

315 Cell and Molecular Biology (5)
Prerequisites: two semesters college biology, genetics and one semester organic chemistry. An introduction to the cell and cell organelles including a study of cellular macromolecules, their synthesis, function and integration into organelles. Topics include studies of modern data-gathering techniques and instrumentation, organellar function, bioenergetics, protein synthesis and gene function at the molecular level. (3 hours lecture, 6 hours laboratory)

316 Principles of Ecology (3)
Prerequisite: one year of college biology or consent of instructor. An introductory survey of population, community and ecosystem ecology. Ecosystem function is described and related to contemporary environmental problems. Students are provided with background for the advanced courses. (3 hours lecture)

316L Principles of Ecology Laboratory (1)
Prerequisite: prior completion or concurrent enrollment in Biol 316. Field and laboratory techniques used in ecological studies. (3 hours laboratory or field work; one or more weekend field trips may be required)

319 Marine Organisms and Their Environment (3) (Formerly 318)
Prerequisite: one semester of college biology or equivalent, or consent of instructor. A general survey of marine plants and animals and their habitats. Recent and interesting findings in marine biology with special attention given to the Southern California region. No credit toward biological science major. (3 hours lecture)

323 Biology of VD (1)
Prerequisite: one smester of college level biology. A survey of venereal diseases with emphasis on gonoorhea and syphilis; includes the symptoms, diagnosis and treatment of patients, and approaches to the control of VD. (3 hours lecture per week for 5 weeks)

340 Field Botany (3)
Prerequisite: Biol 141 or its equivalent, or consent of instructor. The native flora of Southern California is examined with emphasis on identification techniques and factors which determine the distribution of species. (1 hour lecture, 3 hours laboratory, and 5 Saturday field trips required)

342 Plant Anatomy (4)
Prerequisite: Biol 141 or one year of college biology or consent of instructor. A study of the origin and development of cells, tissues and organs (roots, stems, leaves and flowers) of higher plants and an introduction to plant microtechniques. (2 hours lecture, 6 hours laboratory)

344 Plant Morphology (4)
Prerequisite: one year of college biology or consent of instructor. A study of the modern concepts of biochemical and morphogenetic regulation of plant development including an experimental approach using plant tissue culture techniques. (2 hours lecture, 6 hours laboratory)

352 Plants, Man and Life (3)
Prerequisite: one semester of college biology or consent of instructor. An examination of man's dependence upon and economic interest in plants throughout the world. Includes a discussion of the domestication of plants and the origin of agriculture. (3 hours lecture)

352L Plants, Man and Life Laboratory (1)
Prerequisite: Biol 352 or consent of instructor (may be taken concurrently). Includes a discussion

of the manufacture and use of economically important plant derivatives. A major portion of this course will be concerned with making many of these plant products. (3 hours laboratory)

353 Principles of Horticulture (2)

Techniques and principles of plant propagation and cultivation of various types of plants under laboratory, indoor, greenhouse or field environment. (2 hours lecture)

353L Principles of Horticulture Lab (1)

Laboratory for plant propagation and cultivation of various types of plants. (3 hours laboratory)

360 Biology of Human Sexuality (1)

The biology of the human reproductive system. Topics cover sexual differentiation, structure and function, fertility and infertility, coitus, childbirth, contraception and venereal disease. (3 hours lecture per week for 5 weeks)

361 Human Anatomy (4)

Prerequisite: one year of college biology or consent of instructor. Study of the structure and function of the human body. Course designed for biology majors and related health sciences; students with zoology emphasis should take Biol 463. (2 hours lecture, 6 hours laboratory)

367 Insects and Man (3)

Prerequisite: one semester of college biology. The interaction of insects and man, both historical and present. Topics include the role of insects in disease transmission, destruction of crops, and damage to stored products, insect population management in theory and practice, and benefits of insects to mankind. (2 hours lecture, 3 hours laboratory)

401 Biogeography (3)

Prerequisite: one year of college biology or consent of instructor. A study based on evolutionary patterns and mechanisms of distribution of plants and animals in the major habitats of the world with a consideration of current concepts and theories. (3 hours lecture)

403 Biosystematics (4)

Prerequisites: one year of college biology, and Biol 316 or 404 and consent of instructor. An introduction to the principles and techniques of biosystematics, including evolutionary mechanisms, the species concept, taxonomic procedures and nomenclature. (2 hours lecture, 6 hours laboratory)

404 Evolution (3)

Prerequisite: one semester of college biology or zoology or consent of instructor. A study of evolution, including the history of evolutionary thought; origin of universe, earth and life; geological and paleontological history of the earth; evidences for evolution derived from comparative anatomy, embryology, genetics, zoogeography; mechanisms of evolution. (3 hours lecture)

404L Evolution Laboratory (1)

Prerequisite: Biol 404 (may be taken concurrently). Laboratory and field exercises designed to explore the problems, patterns and process of evolution. (3 hours laboratory)

405 Developmental Biology (4)

Prerequisites: Biol 315 or equivalent or consent of instructor. Either Biol 312 or 464 recommended. Molecular and cellular processes involved in the development of organisms such as oogenesis, fertilization, cytokinesis-morphogenetic movements, and nucleocytoplasmic interactions. (2 hours lecture, 6 hours laboratory—discussion)

406 Biometry (4)

Prerequisites: Math 120, 130, or 150A; upper division standing in biological sciences. Introduction to experimental design, interpretation, and practical application of statistics to biological problems. (3 hours lecture, 3 hours laboratory)

407 Seminar in Human Sexuality (3)

Prerequisites: a course in college biology and upper division standing or consent of instructor. The biological-psysiological bases of human sexuality as they relate to human sexual interaction and social change. (3 hours lecture/discussion)

410 General Cell Physiology (4)

Prerequisites: Biol 315 or consent of instructor. Current concepts in cell physiology. Topics include: the cell environment, cell membranes, permeability, bioelectricity, excitability of nerves, muscles and sensory receptors, and muscular and nonmuscular cell motility. (2 hours lecture, 6 hours laboratory)

412 Population Genetics (3)

Prerequisite: Biol 312 or 313. Theory and literature of genetic change in population, primarily

one-locus: maintenance of genetic variability, inbreeding, drift, migration and selection treated singly and in combination. Estimation of genetic parameters. (3 hours lecture)

413 Molecular Genetics (3)

Prerequisites: Biol 312, 315 and Chem 301A,B. The organization, replication and function of the genetic material and informational macromolecules in organisms from the viruses to the higher plants and animals. Topics include: chromosomal structure and function, recombination, mutagenesis, genetic coding, protein synthesis and genetic aspects of development. (3 hours lecture)

413L Molecular Genetics Laboratory (1)

Prerequisites: Biol 302, 312, 315 and concurrent enrollment in Biol 413 or consent of instructor. Designed to give experience in the basic techniques of molecular gene including isolation, characterization and function of the information macromolecules. (3 hours laboratory)

414 Advanced Human Genetics (4)

Prerequisites: Biol 312 and 315 or consent of instructor. Designed primarily for the science major. Principles of heredity with emphasis on methods of analysis, chromosome aberrations, interaction of genes and on gene population in humans. (3 hours lecture, 3 hours laboratory)

419 Marine Ecology (3)

Prerequisites: one year of college biology. Fundamentals of marine ecology, including interrelations of planktonic, nektonic, and benthic organisms with their environment. (3 hours lecture)

419L Marine Ecology Laboratory (1)

Prerequisites: prior completion or concurrent enrollment in Biol 419. Field and laboratory studies of planktonic, nektonic and benthic communities. (3 hours laboratory or fieldwork; 1 or more weekend field trips may be required)

420 Biology of Marine Plankton (4)

Prerequisites: Biol 419, 419L, 446 and 461 or consent of instructor. Systematics, basic biology and ecology, vertical and horizontal distributions; and productivity of the phytoplankton and zooplankton of coastal and oceanic waters. (2 hours lecture, 6 hours laboratory or fieldwork)

421 Biology of Marine Nekton (4)

Prerequisites: Biol 419, 419L, 461 and 475, or consent of instructor. Systematics, basic biology, and ecology of marine nekton, the larger, independently-swimming animals of coastal and oceanic waters including larger crustaceans, cephalopods, fishes, and mammals. Emphasis placed on adaptations for life in a three-dimensional environment. (2 hours lecture, 6 hours laboratory or fieldwork; 1 or more weekend field trips may be required)

423 Pathogenic Microbiology (4)

Prerequisites: Biol 302 and 315. Study of the biology of infectious disease; mechanism of microbial pathogenicity; host defenses; mode of action of antibiotics and other antimicrobial agents; characteristics of specific pathogenic bacteria, fungi and viruses. (2 hours lecture, 6 hours laboratory)

424 Immunology (4)

Prerequisites: Biol 302 and 315 or equivalents; concurrent enrollment in biochemistry is strongly advised. A study of the molecular, cellular, and organismic nature of the immune process. Topics include inflammation, phagocytosis, antigens, immunoglobulins, and cell-mediated immune phenomena. The laboratory acquaints the student with a variety of modern immunology techniques. (2 hours lecture, 6 hours laboratory–discussion)

425 Pathobiology (4)

Prerequisites: anatomy and physiology, microbiology, biochemistry. Designed for students in the allied health sciences who are practicing their art or who have had at least a year's experience in the allied health field. A study of pathobiological processes including etiology, cytopathology, histopathology, gross pathology and epidemiology. (3 hours lecture, 3 hours laboratory)

426 General Virology (3)

Prerequisites: Biol 302 and 315. A detailed study of viral structure and host-virus interactions in the viral replication process, with emphasis on animal and bacterial virus systems. (3 hours lecture)

426L General Virology Laboratory (1)

Prerequisite: prior completion or concurrent enrollment in Biol 426. Experimental methods for studying bacterial and animal viruses, including techniques for growth and titration of infectious viral units and physical characterization of viral structures. (3 hours laboratory)

427 Medical Mycology (4)

Prerequisites: Biol 302, 445, or consent of the instructor. Essentials of pathogenicity, diagnosis and treatment of fungi pathogenic to man and animals. (2 hours lecture, 6 hours laboratory)

432 Microbes and Food Production (2)
Prerequisite: Biol 302 or equivalent for grade option; none for C/NC option. The ancient and modern processes of making cheese from milk, wines from fruits, breads and beers from grains—these and other transformations depend on microorganisms. Included will be the microbes involved and the mechanisms by which their activities transform the unstable raw materials into more desirable products. (Total of 15 hours lecture, 45 hours laboratory and field trips)

433 Microbial Problems in Foods (2)
Prerequisite: Biol 302 or equivalent for grade option; none for C/NC option. Food spoilage, food intoxication and foodborne diseases caused by microbes are serious problems in food processing. The microbes involved in these problems, the sources of contamination, and the methods used in the detection and prevention of the problems will be studied. (Total of 15 hours lecture, 45 hours laboratory and field trips)

436 Advanced General Microbiology (4)
Prerequisites: Biol 302 (or equivalent) and 315. An advanced treatment of the growth, physiology and structures of the microorganisms, with emphasis on study of the free-living bacteria, yeast and molds. (2 hours lecture, 6 hours laboratory)

439 Microbial Ecology (4)
Prerequisites: Biol 302 (or equivalent) and 315. Microbial diversity; the interaction of microbes and their environment; the influence of physical and chemical factors on the distribution and activities of microbial populations; the effects of microbes on the living and nonliving environment. Basic principles of microbial enrichment, selection and succession. (2 hours lecture, 6 hours laboratory)

441 Plant Taxonomy (4)
Prerequisite: one year college biology or consent of instructor. An introduction to the study of classification and evolution of vascular plants with an emphasis on the flowering plants. (2 hours lecture, 6 hours laboratory; field trips required)

443 Plant Ecology (4)
Prerequisite: one year college biology. A study of environmental factors and their effect upon plants and their distribution. Includes field experience and a survey of plant ecological literature. (2 hours lecture, 6 hours laboratory; 1 or more weekend field trips required)

444 Plant Physiology (4)
Prerequisites: one year college biology and one semester of organic chemistry or consent of instructor. A study of the processes of plant growth and development from germination of seeds to the formation of flowers and completion of the life cycle, including plant hormones, mineral nutrition, photosynthesis, respiration, water relations and basic metabolism. (2 hours lecture, 6 hours laboratory)

445 Mycology (4)
Prerequisite: Biol 302 or equivalent or consent of instructor. A study of the morphology, physiology, and ecology of fungi with emphasis on identification and ecological relationships. (2 hours lecture, 6 hours laboratory)

446 Phycology (4)
Prerequisite: botany and zoology or one year of college biology or consent of instructor. Biological aspects of marine and freshwater algae with an emphasis on comparative development, morphology, taxonomy and ecology. (2 hours lecture, 6 hours laboratory or fieldwork; 1 or more weekend field trip required)

461 Invertebrate Zoology (4)
Prerequisite: one year of college biology or consent of instructor. Evolution, classification, morphological and physiological adaptations, and biology of invertebrate animals. Includes dissection, identification and observation of living animals. (2 hours lecture, 6 hours laboratory or fieldwork)

462 Parasitology (4)
Prerequisite: one year of general biology or consent of instructor. A consideration of the symbiotic relationships existing at all levels of animal organization. Emphasis on the natural history, biology, physiology, ecology and laboratory recognition of symbiotic organisms. (2 hours lecture, 6 hours laboratory)

463 Comparative Vertebrate Anatomy (4)
Prerequisite: one semester of general zoology or biology or consent of instructor. A comparative study of the chordates, with emphasis on morphology and evolution of various organ systems

from fish through mammals. Includes comparative dissection of numerous vertebrates. (2 hours lecture, 6 hours laboratory)

464 Embryology (4)

Prerequisites: Biol 161, a year course in zoology or consent of instructor. Strongly recommended that the student has a thorough understanding of vertebrate anatomy. Development of animals with emphasis on comparative and experimental embryology. Laboratory includes a study of living invertebrate and vertebrate embryos. (2 hours lecture, 6 hours laboratory and discussion). (Offered in the fall only.)

Spring semester course designed for students interested in the health professions covering the development of vertebrates with emphasis on human development from gametogenesis through organogenesis. Laboratory includes study of frog, chick and pig serial sections emphasizing histogenesis and organogenesis. (2 hours lecture, 6 hours laboratory) Consent of instructor required.

465 Animal Ecology (4)

Prerequisite: one year college biology or zoology; Biol 316 recommended. A study of the factors that affect the distribution and abundance of animals. Emphasis on field techniques, statistical applications, and theoretical approaches. (2 hours lecture, 6 hours laboratory or fieldwork; 1 or more weekend field trips required)

466 Animal Behavior (3)

Prerequisite: one year of college biology or consent of instructor. An introduction to the current problems in animal behavior including sensory capacities, orientation, innate and learned patterns, and social behavior of invertebrates and vertebrates. (3 hours lecture)

466L Animal Behavior Laboratory (1)

Prerequisite: Biol 466 (can be taken concurrently). Experiments in the analysis of behavioral patterns. (3 hours laboratory or fieldwork)

467 Entomology (4)

Prerequisite: one year of college biology or consent of instructor. Anatomy, physiology, evolution, and biology of insects and other terrestrial arthropods. Laboratory includes detailed dissection, collection, identification, and observation of living arthropods. (2 hours lecture, 6 hours laboratory or fieldwork)

468 Comparative Animal Physiology (4)

Prerequisites: one year college biology and organic chemistry Biol 463 recommended. A comparative survey of organ systems and physiological processes among invertebate and vertebrate animals. (2 hours lecture, 6 hours laboratory)

469 Hematology (3)

Prerequisites: upper division standing and Chem 301A or equivalent, or consent of instructor. Theoretical and practical study of blood and hemopoiesis. Study of the functions and morphology of blood components in healthy and diseased states; hematological tests and factors affecting test reliability. (1 hour lecture, 6 hours laboratory)

472 Comparative Histology and Techniques (4)

Prerequisites: one year of college biology and a course in vertebrate anatomy or consent of instructor. Theory and practice of the preparation of tissues for light microscopic study. (2 hours lecture, 6 hours laboratory)

473 Biomechanics (4)

Prerequisites: one year of college biology, Biol 463, or consent of instructor. The physical forces which are operative on the anatomical design of animals will be examined. These will include special adaptation for locomotion and feeding. (2 hours lecture, 6 hours laboratory; 1 or more field trips required)

474 Natural History of the Vertebrates (4)

Prerequisite: one year of college biology or zoology, or consent of instructor. Natural history and ecology of the vertebrates including behavior, temperature and water regulation, migration and homing, echolocation, venoms, color and coloration. Laboratory and field emphasis on observation, identification, behavior, ecology and distribution of the vertebrates. (2 hours lecture; 6 hours laboratory or fieldwork; 1 or more weekend trips required)

475 Ichthyology (4)

Prerequisite: a year of college biology, or consent of instructor. The systematics, evolution, morphology, physiology, ecology and behavior of fishes. Laboratory and fieldwork in the identification, ecology and behavior of fishes. (2 hours lecture, 6 hours laboratory or fieldwork; 1 or more weekend trips may be required)

476 Herpetology (4)
Prerequisite: one year of college biology, or zoology, or consent of instructor. The biology, structure, physiology, ecology, distribution, evolution, and behavior of amphibians and reptiles. Laboratory and fieldwork in identification, collection, study of amphibians and reptiles. (2 hours lecture, 6 hours laboratory or fieldwork; 1 or more weekend trips required)

478 Mammalogy (4)
Prerequisites: one semester of college biology, or zoology, or consent of instructor. The biology, structure, physiology, ecology, distribution, evolution and behavior of mammals. Laboratory and fieldwork in identification, collection, and natural history of mammals. (2 hours lecture, 6 hours laboratory or fieldwork; 1 or more weekend trips required)

479 Ornithology (4)
Prerequisite: 1 semester college biology or zoology, (Natural History of the vertebrates (Biol 474) or its equivalent recommended). The biology, structure, physiology, ecology distribution, evolution and behavior of birds. Laboratory and field work on identification, observation, and natural history of birds. (2 hours lecture, 6 hours lab and field work; one or more weekend field trips per semester required).

480 Advanced Topics in Undergraduate Biology (1–3)
Prerequisites: upper division students majoring in biology with consent of instructor. Designed to consider current topics, updating of concepts, recent advances and unification of the principles of biology. May be repeated for credit.

490 Biological Internship (4)
Prerequisites: one year each of college biology and college chemistry; upper division or graduate standing and consent of instructor. Designed to acquaint students with biological and ecological community problems. Students will be working in a laboratory setting with individuals from public and private concerns. May be repeated once for credit. (2 hours lecture/discussion, 6 hours laboratory)

499L Independent Laboratory Study (1–3)
Open to undergraduate students by consent of instructor with whom the student wishes to pursue independent laboratory study in biology. May be repeated for credit.

503 Seminar in Modern Concepts in Biology (3)
Investigation of major integrative themes in biological sciences and exploration of the ways in which these permeate all levels of biological thought. May be repeated for credit.

505 Seminar in Molecular Biology (3)
Selected advanced topics in molecular biology, such as macromolecular structure, thermodynamics in biological systems and molecular regulation of cellular activities. Open to graduate students and other qualified students by consent of instructor. May be repeated for credit.

507 Molecular Evolution (3)
(Same as chemistry 545)

510 Seminar in Physiology (3)
Selected within the area of Physiology. Open to graduate students and other qualified students by consent of instructor. May be repeated for credit.

512 Seminar in Genetics (3)
Selected advanced topics within the general area of genetics. Open to graduate students and to other qualified students only by consent of instructor. May be repeated for credit.

517 Seminar in Ecology (3)
Selected advanced topics within the general area of ecology. Open to graduate students and to other qualified students only by consent of instructor. May be repeated for credit.

518 Seminar in Marine Science (3)
Selected advanced topics within the general area of marine science. Open to graduate students and to other qualified students, only by consent of instructor. May be repeated for credit.

520 Seminar in Microbiology (3)
Selected topics in the areas of microbiology. Open to graduate students and other qualified students by consent of instructor. May be repeated for credit.

524 Seminar in Immunology (3)
Selected topics in immunochemistry, immunobiology and medical immunology. Open to graduate students and other qualified students by consent of instructor. May be repeated for credit.

540 Seminar in Botany (3)
Selected advanced topics within the general area of botany. Open to graduate students and to other qualified students by consent of the instructor. May be repeated for credit.

560 Seminar in Zoology (3)
Selected advanced topics within the general area of zoology. Open to graduate students and to other qualified students by consent of the instructor. May be repeated for credit.

580 Advanced Topics in Graduate Biology (1–3)
Prerequisites: graduate standing in biology and consent of instructor. Designed to consider current research topics, experimental design and problem solving in biological systems. May be repeated for credit.

598 Thesis (1–3)
May be repeated for a maximum of 6 units of credit.

599 Independent Graduate Research (1–3)
Open to graduate students only by consent of instructor with whom the student wishes to pursue independent study in biology. May be repeated for credit.

DEPARTMENT OF CHEMISTRY

FACULTY
Patrick Wegner
Department Chair (on leave 1977–78)
Andrew Montana
Interim Chair
David Bailey, Robert Belloli, John Bryden, Gene Hiegel, Harvey Janota, Maria Linder, Glenn Nagel, Barbara Finlayson-Pitts, Carl Prenzlow, L. Donald Shields,* Robert Spenger, Joseph Thomas, Carl Wamser, Bruce Weber, W. Van Willis, Dorothy Pan Wong

The Department of Chemistry is on the approved list of the American Chemical Society.

The curriculum is planned to provide thorough instruction in the basic principles and concepts of chemistry for students who will (1) advance to graduate work in chemistry or biochemistry; (2) teach in the science programs of secondary schools; (3) seek employment in industry or government; (4) advance to medical or dental training or (5) pursue a chemistry degree or minor in support of a career in other areas such as physics, biology, psychobiology and business.

The department offers two baccalaureate degrees, the Bachelor of Science (B.S.) and the Bachelor of Arts (B.A.). The B.A. degree may be obtained with a biochemical emphasis.

To qualify for either a B.S. or a B.A. degree, students must have a C average in all courses required for a major including prerequisites in related sciences or mathematics. No credit toward the major will be allowed for specific major courses in which a grade of D is obtained.

Students are urged to consult regularly with the chemistry faculty about their programs.

BACHELOR OF SCIENCE IN CHEMISTRY

The Bachelor of Science degree is specifically recommended for students planning to go directly into industrial chemistry and for those who wish to do graduate work in physical, analytical, organic or inorganic chemistry. Students who complete this program and include an advanced course in instrumental analysis (such as Chemistry 411) and at least one upper division chemistry elective will qualify for certification by the American Chemical Society.

The B.S. degree is also recommended for students planning to go directly into professional biochemistry and for students planning to attend graduate school in biochemistry or molecular biology. Curriculum differences, including biochemistry courses are explained in footnote 2 that follows.

Career Breadth Requirements for the B.S. Degree (12 units)

Students planning to obtain the B.S. degree must satisfy the career breadth requirements. These requirements may be met in either of two ways:

1. Students who plan to pursue graduate work in chemistry or related fields should obtain a reading knowledge of French, German or Russian since this is required by most graduate schools. This requirement is met by taking 10 units of one of these foreign language courses

* University administrative officer

or by passing a challenge examination. These units may be used, in part, to satisfy general education requirements.

2. Students who do not intend to pursue graduate studies may elect the following option in place of foreign language courses: three units of computer science plus nine units of department approved electives. These electives are intended to further the students' career objectives and may not be used to satisfy requirements in general education.

Basic Chemistry Curriculum for a B.S. in Chemistry [1] [2]

Required courses in chemistry	*Units*
General Chemistry (101A,B)	10
Organic Chemistry (305A,B)	10
Quantitative Chemistry (315)	3
Integrated Laboratory (355A,B)	6
Inorganic Chemistry (325)	3
Physical Chemistry (371A,B)	6
Senior Research (495 or 499)	4
Upper division elective	3
	45
Related areas	
Physics (225A,B,C, 226A,B,C)	12
Mathematics (150A,B, 250, 281)	15
Biological science	5
Total units	32
Total units in science and mathematics	77
General education units, including 6 units of English composition, but not including 13 units of science and mathematics (see general education requirements)	32
Elective units [1]	17
Total units for B.S. in Chemistry	124

Suggested Eight Semester Program for a B.S. in Chemistry

First Semester (Freshman)	*Units*
Chemistry 101A General Chemistry	5
Mathematics 150A Analytic Geometry and Calculus	4
English 100 or 103 Composition	3
General education courses	4
	16
Second Semester (Freshman)	
Chemistry 101B General Chemistry	5
Mathematics 150B Analytic Geometry and Calculus	4
Physics 225A, 226A Fundamental Physics	4
English literature or composition	3
	16
Third Semester (Sophomore)	
Chemistry 305A Organic Chemistry	5
Mathematics 250 Intermediate Calculus	4
Physics 225B, 226B Fundamental Physics	4
General education courses	3
	16
Fourth Semester (Sophomore)	
Chemistry 305B Organic Chemistry	5
Mathematics 281 Linear Algebraic Differential Equations	3
Physics 225C, 226C Fundamental Physics	4
Chemistry 315 Quantitative Chemistry	3
	15

[1] Check with adviser to see if career breadth elective courses will be appropriate.

[2] Students wishing advanced preparation in biochemistry may substitute Chemistry 422A,B; Chemistry 423A,B and eight additional units of biology (three units must be upper division) in place of Chemistry 325, Chemistry 441, the required chemistry elective, and Mathematics 281.

Fifth Semester (Junior)

Chemistry 371A Physical Chemistry	3
Chemistry 355A Integrated Laboratory	3
General education courses	6
Biological science	5
	17

Sixth Semester (Junior)

Chemistry 325 Inorganic Chemistry	3
Chemistry 371B Physical Chemistry	3
Chemistry 355B Integrated Laboratory	3
General education courses	6
	15

Seventh Semester (Senior)

Chemistry (495 or 499)	2
Upper division Chemistry elective	3
General electives courses	3
Electives	7
	15

Eighth Semester (Senior)

Chemistry 495 (or 499)	2
General education courses	4
Electives	8
	14

Suggested Eight Semester Program for a B.S. in Chemistry Including Biochemistry Courses

First Semester (Freshman)

	Units
Chemistry 101A General Chemistry	5
Mathematics 150A Analytic Geometric and Calculus	4
English 100 or 103 Composition	3
General education courses	3
	15

Second Semester (Freshman)

Chemistry 101B General Chemistry	5
Mathematics 150B Analytic Geometry and Calculus	4
Physics 225A, 226A Fundamental Physics	4
General education courses	3
	16

Third Semester (Sophomore)

Chemistry 305A Organic Chemistry	5
Physics 225B, 226B Fundamental Physics	4
Biol 141 Prin of Botany	4
English literature or composition	3
	16

Fourth Semester (Sophomore)

Chemistry 305B Organic Chemistry	5
Physics 225C, 226C Fundamental Physics	4
Biological Sciences 161 Principles of Zoology	4
Chemistry 315 Quantitative Chemistry	3
	16

Fifth Semester (Junior)

Chemistry 371A Physical Chemistry	3
General education courses	3
Chemistry 423A, 422A General Biochemistry	5
Mathematics 250 Intermediate Calculus	4

	15

Sixth Semester (Junior)

Chemistry 371B Physical Chemistry	3
Chemistry 423B, 422B General Biochemistry	5
Biological sciences (upper division)	5
General education courses	3
	16

Seventh Semester (Senior)

Chemistry 495 (or 499)	2
General education courses	6
Electives	7
	15

Eighth Semester (Senior)

Chemistry 495 (or Chemistry 499)	2
General education courses	8
Electives	4
	14

BACHELOR OF ARTS IN CHEMISTRY

The Bachelor of Arts in Chemistry is offered for students who are planning careers which require a sound background in fundamental chemistry, but not the specialized training needed by a professional chemist or biochemist.

Option one in the B.A. program is particularly suited for those who plan to go into areas such as secondary education, technical sales, food processing, chemical patent law, forensic sciences and environmental law.

Option two in the B.A. program, which emphasizes biochemistry, is strongly recommended for any student who is preparing for admission to a school of dentistry, medicine, pharmacy or veterinary medicine. With suitable electives in the biological sciences, this option provides an excellent foundation for graduate school in molecular biology or for special training in medical technology or clinical chemistry.

One year of foreign language (German, French or Russian) is recommended for those going on to graduate work.

Chemistry Curriculum for a B.A. in Chemistry

Required courses in chemistry	*Units*
Chem 101A,B General Chemistry	10
Chem 301A,B Organic Chemistry [1]	6
Chem 302 Organic Chemistry Laboratory [1]	2
Chem 315 Quantitative Chemistry	3
Chem 325 Inorganic Chemistry	3
Chem 355A Integrated Laboratory	3
Chem 361A,B Physical Chemistry [2]	6
Chem 495/499 Senior Research or Independent Study [4]	2
Total	35

Prerequisite courses in related areas:

(May be used to satisfy the general education requirement in the natural sciences and mathematics.)

Physics (211A,B) [2 3]	6
Physics (212A,B) [2 3]	2
Mathematics (150A,B) [2]	8
Biological Science [4]	5

[1] Students may substitute Chem 305A,B (10 units).

[2] Physics 211A,B, Physics 212A,B and Math 150A,B are prerequisite for Chem 361A.

[3] Students who are candidates for professional schools such as medicine and dentistry, graduate school in biology or a teaching credential in physical science should substitute Physics 225A,B,C, 226A,B,C (12 units). All other students are recommended to take Physics 312 (Modern Physics) as an elective.

[4] Three units of a computer science course and five units of biological science are prerequisites for either Chem 495 or 499.

General education units, including 6 units of English composition but not including 13 units of science and mathematics	32
Elective units [5]	33
Total required units for the B.A. in Chemistry	124

Secondary Teaching Credential

To qualify for a waiver from the Ryan Act Examination and to obtain a secondary teaching credential in the physical sciences, these changes in the above program must be met:

1. Students taking a teaching credential in this area need not take Senior Research or Independent Study (Chem 495/499) but should take Science Education 312.
2. Students are required to take Biol 101 and are recommended to take an additional biological science course.
3. Students are required to take 24 units of education courses plus the following science courses: Earth Science 101, Earth Science 103 and Engineering 205.

B.A. in Chemistry with emphasis in Biochemistry

Required courses in chemistry:	*Units*
Chem 101A,B General Chemistry	10
Chem 301A,B Organic Chemistry [1]	6
Chem 302 Organic Chemistry Laboratory [1]	2
Chem 315 Quantitative Chemistry	3
Chem 361A,B Principles of Physical Chemistry [2]	6
Chem 423A,B General Biochemistry	6
Chem 422A,B Biochemistry Lab	4
Chem 495/499 Senior Research and Independent Study [A]	2
Total	39
Prerequisite courses in related areas:	
(Satisfies the general requirement in the natural sciences and mathematics)	
Physics 211A,B [B C]	6
Physics 212B [B C]	2
Mathematics 150A,B [B]	8
Biological Science [A]	13
Engineering 205 [A]	3
General Education units, including 6 units of English composition, but not including 13 units of science and mathematics	32
Elective units [D E]	21
Total required units for the B.A. in Chemistry with biochemistry emphasis	124

MINOR IN CHEMISTRY

A minimum of 24 acceptable units of chemistry, including 14 units of upper division chemistry courses, excluding independent study, are required for a chemistry minor.

MASTER OF ARTS IN CHEMISTRY

The Master of Arts in Chemistry is designed to qualify students for more advanced work in chemistry, to provide preparation which will lead to responsible positions in industrial or government research and development laboratories, and to provide preparation for the effective teaching of chemistry in the high schools and community colleges.

The program provides fundamental courses at a level and depth commensurate with those taken during the first year of a doctoral program and provides an introduction to research and research methods.

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[1] Students may substitute Chem 305A,B (10 units).

[5] Generally includes 6–10 units of upper division chemistry or related sciences. These may satisfy the general education requirement in the natural sciences.

[A] Three units of a computer science course, such as Engineering 205 and 13 units of biological science courses, including three units at the upper division level, are prerequisites for Senior Research, Chem 495, or Independent Study (Chem 499) in the biochemistry emphasis.

[B] Physics 211A,B, Physics 212A,B, and Math 150A,B are prerequisites for Chemistry 361A,B.

[C] Students who are candidates for professional schools such as medicine and dentistry, or graduate school may substitute Physics 225A,B,C, Physics 226A,B,C (12 units). Physics 312 (Modern Physics) is suggested for other students.

[D] Generally includes 6–10 units of upper division chemistry or related sciences. These may satisfy the general education requirement in the natural sciences.

[E] Chemistry 351 is not acceptable as an elective for the biochemistry emphasis.

Prerequisites

Students must meet the university and school requirements for admission in conditionally classified standing with the declared objective of this degree: a baccalaureate degree from an accredited institution and a gradepoint average of at least 2.5 in the last 60 semester units attempted (see section of this catalog on admission of graduates for complete statement and procedures).

A student who meets the requirements for conditionally classified graduate standing, as well as the following requirements, may be admitted as a classified graduate, upon the development of an approved study plan:

1. An undergraduate major in chemistry or have taken a combination of chemistry and other science courses which the department graduate committee deems to be adequate preparation.
2. A GPA of 2.5 in upper division chemistry courses.
   Qualifying examinations, administered by the department twice a year, are required of all students entering the program. Qualifying examinations are required in the areas of physical and organic chemistry, plus two from the areas of analytical, inorganic or biochemistry. The results of these examinations will be used to advise the student in developing the study plan. A student may be conditionally classified with certain subject deficiencies, but such deficiencies must be removed either (1) by committee-approved coursework with a grade of B or better, or (2) by passing the next qualifying examination. Proficiency in reading chemical literature in one approved foreign language must be demonstrated before advancement to candidacy.

Study Plan

The degree program consists of 30 units of graduate committee-approved coursework completed with a minimum grade-point average of 3.0. Each student will prepare a study plan in consultation with his research director. This plan must be approved by the graduate coordinator and the department graduate committee.

A. The following courses are required of all students:

		Units
Chem 505	Seminar in Chemistry	2
Chem 599	Independent Graduate Research (Minimum)	3
Chem 598	Thesis or Chem 597 Project	1–2

Study plans of students electing the Project alternative may contain no more than three units of Chem 599.

B. Each student is required to take at least two 500-level courses other than those listed above. A minimum total of 15 units of 500-level courses is required.

C. The courses in the study plan must include a minimum of nine units (not including Chemistry 505, 598, 599) in one of the following areas of specialization, including related areas: (1) analytical chemistry; (2) biochemistry; (3) inorganic chemistry; (4) organic chemistry; (5) physical chemistry.

D. In order to insure sufficient breadth and background, each student is required to take one course from each of the following groups if he has not passed (with a B or better) an equivalent course as an undergraduate. However, courses taken as an undergraduate cannot be applied to the 30 units required for graduation.

			Units
Group I	Chem 411	Instrumental Analysis	4
	Chem 425	Advanced Inorganic Chemistry	3
Group II	Chem 423A	General Biochemistry	3
	Chem 431	Advanced Organic Chemistry	3
Group III	Chem 450	Advanced Physical Chemistry	4
	Chem 451	Quantum Chemistry	3

For further details or advisement, please refer to the graduate adviser of the Chemistry Department.

See also "The Program of Master's Degrees" in this catalog and the *Graduate Bulletin.*

CHEMISTRY COURSES

100 Introductory Chemistry (4)

Prerequisite: one year of high school algebra. Fundamental principles of chemistry with emphasis placed on the chemistry of inorganic compounds. Does not apply as credit for majors in the

physical or biological sciences or for minors in the physical sciences. *("G" sections in the schedules are for students who do not intend to take additional science courses, and "S" sections are for students who plan to continue careers in science and/or engineering) (3 hours lecture, 3 hours laboratory)*

101A,B General Chemistry (5,5)

Prerequisites: one year of high school algebra plus one of the following: one year of high school chemistry with a grade of "B" or better; Chemistry 100S with a grade of "C" or better; or passage of the Chemistry Placement Examination. High school physics strongly recommended. Intended for majors and minors in the physical and biological sciences. **A**—The fundamental principles of chemistry including stoichiometry, gas laws, solid and liquid states, changes of state, modern atom concepts, chemical bonding and chemical equilibrium with emphasis on quantitative acidbase chemistry. Laboratory: experiments applying elementary physical chemistry and volumetric quantitative analysis. (3 hours lecture discussion, 6 hours laboratory) **B**—Oxidation-reduction chemistry, introduction to chemical thermodynamics and chemical kinetics, discussions of the chemistry of representative and transition elements, and introductions to biochemistry, organic and nuclear chemistry. Laboratory: experiments concerning gravimetric and volumetric quantitative analysis, selected topics in qualitative analysis and inorganic preparations. (3 hours lecture discussion, 6 hours laboratory)

105 General Chemistry for Engineers (3)

Prerequisite: Chemistry 101A. Description the same as Chemistry 101B. Open only to engineering majors. Not open to students with credit in Chemistry 101B.

111 Drugs and Diet in Life Processes (3)

Diet, food additives, vitamins, enzymes, hormones, drugs, disease, and related biochemical topics. The evidence available for understanding and evaluating current controversies, popular practices, fads, and fallacies.

280 Water Pollution (1)

A qualitative survey of current problems and practices relating to the production, use, and treatment of waste-water in Southern California. The relationship between scientific, political, environmental, and management factors.

300 Introduction to Organic and Physiological Chemistry (3)

Prerequisites: Chemistry 100 or equivalent. An introduction to organic chemistry and the chemistry of the human body with emphasis on medical applications. Primarily for students in the nursing program.

300L Introduction to Organic and Physiological Chemistry Laboratory (1)

Prerequisites: Chemistgry 100 or equivalent. The chemistry and properties of major classes of compounds in organic and biochemistry. Primarily for students enrolled in the nursing program.

301A,B Organic Chemistry (3,3)

Prerequisite: Chemistry 101B or equivalent. Chemistry 301B must involve concurrent enrollment in Chemistry 302B or 302. A course in organic chemistry designed for the non-chemistry major or for those seeking a B.A. in Chemistry. **A**—Fundamental concepts relating to carbon compounds with emphasis on structure and chemical bonding. Reactions of aliphatic and aromatic hydrocarbons, alkyl halide and alcohols, spectroscopy and reaction mechanisms. **B**—Reactions of ethers, carboxylic acids, aldehydes, ketones, amines and phenols. Chemistry and structure of polymers, fats, carbohydrates, amino acids and proteins. Recommended for biology majors and students planning to enter a paramedical profession.

302 Organic Chemistry Laboratory (2)

Prerequisite: Chemistry 301A or equivalent. Chemistry 302 (6 hours laboratory) must be taken concurrently with 301B. A course designed to give training in the basic techniques of the organic chemistry laboratory, including synthesis of typical aliphatic and organic compounds.

302A,B Organic Chemistry Laboratory (1,1)

Chemistry 302A (3 hours laboratory) must be taken concurrently with Chemistry 301A. Chemistry 302B (3 hours laboratory) must be taken concurrently with Chemistry 301B. A course designed to give training in the basic techniques of the organic chemistry laboratory, including synthesis of typical aliphatic and aromatic compounds. Students wishing to fulfill all of their organic chemistry laboratory requirement in a single semester should enroll in Chemistry 302.

305A,B Organic Chemistry (5,5)

Prerequisite: Chemistry 101B or equivalent. A comprehensive course in organic chemistry designed for the chemistry major. Emphasis in lecture and laboratory is placed upon modern theories

of structure and reaction mechanism with applications of modern instrumental and spectroscopic methods. (3 hours lecture discussion, 6 hours laboratory)

312 Quantitative Chemistry (4)

Prerequisites: Chemistry 101A,B (grade C or better) and at least one semester of organic chemistry lecture and laboratory, Physics 211A,B or 225A,B strongly recommended. Modern analytical chemistry including contemporary separation methods, nonaqueous quantitative chemistry, and introductions to instrumental methods of analysis in electrochemistry, absorption spectroscopy, and radiochemistry. (2 hours lecture discussion, 6 hours laboratory)

315 Quantitative Chemistry (3)

Prerequisites: Chemistry 101A,B and Chemistry 301A or equivalent; Physics 211A,B or Physics 225A,B strongly recommended. Theory of modern analytical chemistry including aqueous and nonaqueous equilibrium calculations, electrochemistry, spectrometry (UV—visible, IR., Raman, NMR, fluorescence, ESR and mass spectrometry) and contemporary separation methods with primary emphasis on various types of chromatography.

325 Inorganic Chemistry (3)

Prerequisites: Chemistry 101A,B, 305A,B, or equivalent. The chemistry of the main group elements and a brief introduction to transition metal chemistry.

351 Introduction to Biochemistry (4)

Prerequisites: one year of organic chemistry and five units of biology. A survey of the chemistry and metabolism of proteins, carbohydrates, lipids, hormones, in plants, animals and microorganisms. (3 hours lecture discussion, 3 hours laboratory)

355A,B Integrated Laboratory (3,3)

Prerequisite: Chemistry 302 or Chemistry 305B; corequisites: Chemistry 315 for 355A, Chemistry 371A or Chemistry 361A for 355B. Laboratory training in techniques of chemical synthesis, instrumental methods of analysis and physical chemistry.

361A,B Introduction to Physical Chemistry (3,3)

Prerequisites: one year of organic chemistry; Mathematics 150A,B; one year of physics. Introduction to the theory and applications of thermodynamics, chemical equilibria, properties and solutions and elecrochemical cells, kinetics, and macromolecules in chemical systems. Not applicable to the B.S. in Chemistry.

371A,B Physical Chemistry (3,3)

Prerequisites: Mathematics 250, one year of physics and Chemistry 101B. Chemistry 312 recommended. Equivalent courses may be substituted. A study of the fundamental laws and theories of chemistry. Thermodynamics, solutions, chemical and phase equilibria, electrochemistry, transport phenomena, introduction to atomic and molecular structure, rotation and vibration spectroscopy, statistical mechanics, kinetics are the major topics discussed. Discussions with emphasis on the use of fundamental principles to solve problems.

403 Analysis of Organic Compounds (3)

Prerequisites: one year of organic chemistry and Chemistry 312 or equivalents. Isolation and identification of organic compounds using chemical and instrumental techniques. (1 hour lecture discussion, 6 hours laboratory)

409 Photochemistry of Biological Systems (4)

Prerequisites: organic chemistry and an upper division course in animal or plant physiology or consent of instructor. A study of the effects of light of various wavelengths and intensities on organisms and their organs. Also techniques on equipment calibration and light measurements.

411 Instrumental Analysis (4)

Prerequisites: Chemistry 312, one year of organic chemistry and one year of college physics, 371B corequisite. Advanced topics in absorption and emission spectroscopy, nuclear magnetic resonance, electron spin resonance, mass spectrometry, gas chromatography, x-ray methods, electrochemistry and radiochemistry. (2 hours lecture discussion, 6 hours laboratory)

420 Clinical Chemistry (4)

Prerequisite: Chemistry 351 or equivalent. Principles of biochemistry and analytical methods applied to physiological fluids. This course cannot apply to the major in chemistry. (2 hours lecture, 6 hours laboratory)

421A,B Biological Chemistry (3,3)

Prerequisite: one year of organic chemistry or equivalent. Survey of major areas of biochemistry, including chemistry and functions of compounds of biochemical interest. Course emphasizes bio-organic mechanisms. Not applicable for a chemistry major.

422A,B General Biochemistry Laboratory (2,2)
Prerequisites: concurrent or prior enrollment in Chemistry 421A,B or 423A,B. Laboratory designed to illustrate the chemistry and metabolism of carbohydrates, nucleic acids, lipids, and proteins, to introduce techniques of enzyme chemistry and isolation, and to introduce the student to research methods. (6 hours laboratory)

423A,B General Biochemistry (3,3)
Prerequisites: Chemistry 305B, 312 and concurrent or prior registration in 371A. Recommended for chemistry majors. Survey of major areas of biochemistry, with emphasis on the structural chemistry and function of biomolecules, mechanisms of enzyme action and physical chemical approaches to the study of biopolymers and biochemical systems. Readings from current literature required.

424 Neurochemistry (3)
Prerequisite: Chemistry 351, 421B or 423B. Molecules and metabolism of neurons, with emphasis on the chemical basis of synaptic transmission and information processing. Current literature and experimental design will be stressed.

425 Advanced Inorganic Chemistry (3)
Prerequisites: Chemistry 101A,B or equivalent, one year organic chemistry, Chemistry 325 and 371A,B. An introduction to the bonding, structure and reactivity of transition and lanthanide elements. Topics treated include molecular orbital and ligand field theory, classical metal complexes and organometallic chemistry of the transition elements.

427 Preparative Techniques (4)
Prerequisites: Chemistry 312 and 325, one year organic chemistry (concurrent enrollment acceptable) or equivalents. Laboratory exercises using advanced techniques and modern methods for the preparation and identification of chemical compounds. Readings in the current literature required.

431 Advanced Organic Chemistry (3)
Prerequisites: one year organic chemistry, Chemistry 371A and 371B. Theoretical aspects of organic chemistry with emphasis on the modern concepts of structure and chemical reactivity.

441 Physical Chemistry Laboratory (3)
Prerequisite: Chemistry 371A,B and 312. Laboratory exercises illustrating the physical principles of chemistry. (1 hour lecture discussion, 6 hours laboratory)

450 Advanced Physical Chemistry (3)
Prerequisite: Chemistry 371A,B or equivalent. An advanced study of classical thermodynamics followed by an introductory study of statistical mechanics and chemical kinetics.

451 Quantum Chemistry (3)
Prerequisite: Chemistry 371A,B. An introduction to the application of quantum mechanics. Postulates and theories approximation methods, the electronic structure of atoms and periodic system, molecules and the chemical bond, and introduction to group theory.

472 X-Ray Crystallography (4)
Prerequisites: Physics 225A,B, Mathematics 250, and one year organic chemistry, or equivalent courses. Morphological crystallography, crystal symmetry and crystallographic groups, X-rays and X-ray diffraction, the recording and interpretation of diffraction phenomena, and the analysis of crystal structures, including computer applications. (3 hours lecture, 3 hours laboratory)

480 Topics in Contemporary Chemistry (1–6)
Prerequisite: upper-division standing in chemistry. Selected areas of interest in chemistry will be discussed. May be repeated for credit.

490 Internship in Chemistry (1–2)
Prerequisites: senior or graduate standing in science and consent of instructor. Designed to acquaint students with applications of chemistry to problems in the community. Students will work in a laboratory setting in public and private concerns. Chemistry majors may take as career breadth requirement units. May be repeated for credit.

495 Senior Research (1–3)
Prerequisites: three one-year courses in chemistry, senior standing and consent of supervising instructor before enrollment. Open only to students with a 3.0 GPA in chemistry. Introduction to the methods of chemical research through a research project carried out under the supervision of one of the Chemistry Department faculty. May be repeated for credit. Only 6 units may apply toward B.A. degree.

499 Independent Study (1–3)
Prerequisites: upper division standing and completion of two one-year courses in chemistry. Study of some special topic in chemistry, selected in consultation with the instructor and carried out under his supervision. May be repeated for credit. Only six units may apply toward B.A. degree.

505 Seminar (1–2)
Prerequisites: graduate standing and consent of department. Student presentation of recent contributions to the chemical literature. May be repeated for credit.

511 Theory of Separations (3)
Prerequisites: Chemistry 312, 371A,B and one year organic chemistry. The theory, application, and limitations of physical and chemical separation techniques.

512 Electroanalytical Chemistry (4)
Prerequisites: Chemistry 312, 371A,B and one year organic chemistry. Advanced topics in potentiometry, amperometry, electroanalysis, coulometry, conductometry, polarography, single and multiple sweep voltammetry, chronopotentiometry and chronoamperometry.

525 Radiochemistry (4)
Prerequisite: Chemistry 371A,B. Introduction to the theory of nuclear properties and phenomena; their detection and measurement; application of their technology to chemical experimentation.

528 Coordination Chemistry (3)
Prerequisite: Chemistry 425 or equivalent. A concise treatment of the structure and bonding of coordinating compounds, preparative methods and a survey of ligand.

531 Theoretical Organic Chemistry (3)
Prerequisites: Chemistry 431 and 550. The application of theoretical concepts to current topics of physical organic chemistry research.

535 Organic Synthesis (3)
Prerequisites: Chemistry 301A,B or 305A,B and 371A,B (concurrent enrollment acceptable). Methods of synthetic organic chemistry and their application to construction of organic molecules. Recent developments covered.

539 Chemistry of Natural Products (3)
Prerequisite: Chemistry 301B. Selected topics from the chemistry of the alkaloids, terpenes, steroids and a variety of other natural products of plant and animal origin. Discussions included on the classification, structure elucidation, synthesis, biosynthesis and physiological activity of these compounds.

540 Chemistry of Proteins and Nucleic Acids (3)
Prerequisite: Chemistry 421B or 423B or consent of instructor. Chemical synthesis of macromolecules, Physical and chemical methods of determining the primary, secondary and tertiary structure, theories of structural organization and macromolecular interactions.

543 Physical Chemistry of Biological Macromolecules (3)
Prerequisites: Chemistry 309, 361 or 371, 421 or 423, or consent of instructor. Discussion of the architecture, stability, and associative equilibria of proteins and nucleic acids in solution. Emphasis on hydrodynamic, electrophoretic, and spectrophotometric techniques.

544 Bioenergetics (3)
Prerequisite: Chemistry 421A,B or 423A,B; 309A or 371A or consent of instructor. Biochemical structure-function relationship in membranes; membrane isolation fractionation and reconstitution techniques. Discussion of membrane dependent energy transduction process (vision, photosynthesis, nerve excitation and oxidative phosphorylation).

545 Molecular Evolution (3)
Prerequisite: one year of biochemistry or consent of instructor. The evolution of proteins, nucleic acids and the genome including modern techniques for the study of the origin and evolution of life at the molecular level. The theoretical relationship of neo-Darwinian and non-Darwinian evolution, neutral mutations, gene amplification, construction of phylogenetic trees, rates of molecular evolution, mathematical models, and design of new experiments will be emphasized.

546 Metabolism and Catalysis (3)
Prerequisite: Chemistry 421B or 423B or consent of instructor. Metabolic and biosynthetic reactions and their regulation. The kinetics and mechanism of enzyme-catalyzed reactions and the role of enzymes in physiological control mechanisms.

555 Chemical Kinetics (3)
Prerequisite: Chemistry 450 or consent of instructor. Analysis of reacting systems; theories of chemical kinetics; discussion of gas phase, liquid phase and surface reactions including recent developments.

575 Theory of Spectroscopy (3)
Prerequisite: Chemistry 451 or equivalent. Group theory, symmetry mode, intensities and selection rules, selected topics from electronic spectra of atoms and molecules, UV, IR, NMR, ESR and Raman spectroscopy.

580 Topics in Advanced Chemistry (1–6)
Prerequisites: graduate standing in chemistry. Selected areas of current research interest in chemistry will be discussed. May be repeated for credit.

598 Thesis (1–2)
Prerequisites: an officially appointed thesis committee and advancement to candidacy. Guidance in the preparation of a project or thesis for the master's degree.

599 Independent Graduate Research (1–6)
Prerequisite: graduate standing in chemistry. May be repeated for credit.

DEPARTMENT OF COMPUTER SCIENCE

FACULTY
Gene Rose
Department Chair
Ronald Colman, Demetrios Michalopoulos

Computer Science is concerned with *information* in much the same sense that physics is concerned with *energy*. It is the science of information, its representation, its storage, its structures, its display and the processes by which it is transformed. It is interested in all kinds of information: numeric, alphabetic, pictorial, verbal, tactile, olfactory, sensory information and that requiring instrumentation for detection. The computer scientist is interested in effective ways to represent information, algorithms to transform information, languages in which to express algorithms, the logical structures of devices which translate or interpret such languages, the theoretical techniques for insuring the accuracy and minimizing the cost of such processes and the philosophical foundations of such mechanical intelligence.

The Department of Computer Science offers programs leading to the Bachelor of Science in Computer Science and the Master of Science in Computer Science degrees.

B.S. IN COMPUTER SCIENCE

The degree requires completion of 57 units of coursework in the fundamental theory of computer science and in the dominant application areas. This work represents the common body of knowledge, mastery of which is expected of all computer scientists. An additional 12 units of electives allow the student to pursue special interests in computer science and to explore other application areas. The student's grade-point average must be at least 2.0 for the 69 units required for the major, and none of these may be taken on a credit-no credit basis.

Required courses are as follows: *Units*

Lower Division 24
- Mathematics 150A,B Analytic Geometry and Calculus (4,4)
- Mathematics 250 Intermediate Calculus (4)
- Mathematics 281 Linear Algebra with Differential Equations (3)
- Computer Sci 112 Introduction to Computer Programming (3)
- Computer Sci 210 Introduction to Machine Language and Logic (3)
- Computer Sci 212 Survey of Computational Language (3)

Upper Division 33
- Engineering 402 Digital Logic Design (3)
- Engineering 405 Digital Computer Design and Organization (3)
- Mathematics 340* Numerical Analysis (3) *or*
  Engineering 403* Computer Methods in Numerical Analysis (3)
- Mathematics 335 Mathematical Probability (3) *or*
  Engineering 423 Engineering Probability and Statistics (3)
- Mathematics 435* Mathematical Statistics (3) *or*
  Quantitative Methods 461* Advanced Statistics (3)
- Quantitative Methods 448 Digital Simulation in Business and Economics (3)
- Quantitative Methods 363 Management Science (3)
- Computer Sci 302 Information Structures (3)
- Computer Sci 310 Systems Programming (3)

Computer Sci 410 Systems Architecture (3)
Computer Sci 470 Theory of Computation (3) *or*
Computer Sci 471 Automata Theory (3)

Upper Division Electives 15

A minimum of 12 units of upper division electives, 6 of which may be selected from the list of related courses offered by other departments and 6 of which must be selected from upper division courses offered by the Department of Computer Science and numbered below 490. Students with special educational objectives are encouraged to petition to take a greater portion of these electives outside the Computer Science Department.

Total 69

Upper Division Elective Courses Related to Computer Science

Economics:
301 Economic Principles (3)
310 Intermediate Microeconomic Analysis (3)
440 Introduction to Econometrics (3)

Engineering:
300 Electric Circuits (3)
300L Electric Circuits Laboratory (1)
303 Electronics (3)
303L Electronic Laboratory (1)
308 * Engineering Analysis (3)
402L Digital Logic Laboratory (2)
405L Digital Computer Design Laboratory (2)
424 Computer Simulation of Continuous Systems (3)
445 Pulse and Digital Circuits (3)
445L Pulse and Digital Circuits Laboratory (2)
448 Digital Systems Design (3)
497 Senior Projects (1–3)
499 Independent Study (1–3)

Mathematics:
302 Modern Algebra (3)
304 * Mathematical Logic (3)
306 Vector and Tensor Analysis (3)
308 * Introduction to Applied Mathematics (3)
310 Ordinary Differential Equations (3)
330 Number Theory (3)
350A,B Advanced Calculus (3,3)
370 Mathematical Model Building (3)
412 Complex Analysis (3)
430 Partial Differential Equations (3)
431 Methods of Applied Mathematics (3)
440 Advanced Numerical Analysis (3)
499 Independent Study (1)

Earth Science
385 Applications of Computers to Earth Science (3)

Philosophy:
369 * Second Course in Symbolic Theory (3)

Quantitative Methods:
404 Analysis of Information Systems (3)
408 Data Base Management Systems (3)
464 Information Retrieval and Natural Language Processing (3)
465 Linear Programming (3)
466 Nonlinear Programming (3)
467 Statistical Quality Control (3)

* Not *both* Mathematics 435 and Quantitative Methods 461 nor *both* Mathematics 340 and Engineering 403 may be used to fulfill requirements. Not *both* Mathematics 308 and Engineering 308 . . . nor *both* Mathematics 304 and Philosophy 369 may be used to fulfill upper division elective requirements.

475 Multivariate Analysis (3)
490 Stochastic Process Models in Business and Industry (3)
495 Symposium in Applied Mathematics (1)
499 Independent Study (1–3)

Prior to registration in courses related to their personal objectives but which are not on this list, students should petition with their advisers for acceptance of such courses.

MINOR IN COMPUTER SCIENCE

Students majoring in other fields, including those without an extensive mathematics background, may earn a minor in computer science. A minimum of 21 units of computer science are required for a minor. These shall include the following courses: Computer Sci 112, 210 and 212 and 12 units taken from upper division courses listed above as requirements or electives for computer science majors. No more than six units may be taken from departments other than the Computer Science Department.

Students must have a 2.0 grade-point average or better in the minor. These courses may not be taken on a credit/no credit basis.

Student Advisement

Undergraduate students majoring in computer science are advised by the departmental undergraduate advisement coordinator.

Group advisement sessions are sponsored each semester by the Department of Computer Science in conjunction with the Computer Club. Entering students are especially urged to attend these sessions. Contact the chair of the department for details.

MASTER OF SCIENCE IN COMPUTER SCIENCE

Applicants, as well as continuing students, should read carefully the university requirements for master's degree programs.

Program objectives are to: (1) prepare students for the increasingly sophisticated application of computers to the needs of industry and society; (2) prepare students for research, teaching and further graduate programs in computer science; and (3) provide graduate level coursework in computer science which supplements the curriculum in other disciplines.

Admission to Conditionally Classified Graduate Standing

A bachelor's degree from an accredited institution with a grade-point average of at least 2.5 is required. Students with grade deficiencies may be considered; any deficiencies must be made up and will require six or more units of adviser-approved coursework with at least a 3.0 average in addition to those required for the degree.

Admission to Classified Graduate Standing

Achievement of this status requires the following:

1. Approval of a formal study plan (see description below) by the Computer Science Graduate Committee and the Dean of Graduate Studies.
2. Satisfactory completion of no more than nine units on the study plan.
3. Satisfactory completion of Engineering 405, Mathematics 340 or Engineering 403, and Computer Sci 470 or 471, and Computer Sci 410, or their equivalents. No more than six units of these courses (400 level only) may be included in the study plan.

In view of the fact that talented professional computer scientists have traditionally come from a diversity of undergraduate preparations, the background preparation required above is just that preparation which is both sufficient and necessary. The listed courses, prerequisites for required graduate courses in the program, have been carefully selected to provide an adequate basis for graduate work while not unfairly precluding admission of persons without a bachelor's degree in computer science. *It should be noted, however, that each of these courses has prerequisites and the student without preparation in a closely related degree may have considerable work to complete beyond the courses listed here.* Reference should be made to the catalog descriptions for prerequisites of each course deficiency.

All or a part of the following additional courses may be required:

Computer Sci 112 Introduction to Computer Programming
Computer Sci 210 Introduction to Machine Languages and Logic
Computer Sci 212 Introduction to Computational Languages
Computer Sci 302 Information Structures
Computer Sci 310 Systems Programming

Engineering 402 Digital Logic Design
Math 150A,B Analytic Geometry and Calculus
Math 250 Intermediate Calculus
Math 281 Linear Algebra and Differential Equations

These courses and their prerequisites constitute program prerequisites, representing the breadth of knowledge in the discipline considered necessary for the beginning graduate student. They are also course prerequisites and students are advised not to enroll in courses for which they have prerequisite deficiencies. Students with experience equivalent to any or all of these prerequisite courses are encouraged to satisfy such prerequisites by advance placement examination. Consult the computer science graduate adviser for further information.

Study Plan

Prior to admission to classified graduate status in Computer Science, the student with the aid of the Computer Science graduate adviser shall prepare and submit for approval by the Computer Science Department Graduate Committee a formal study plan consisting of a minimum of 30 units of 400 level and graduate coursework.

This shall include Computer Sci 510, 512, 572, 597 ‡ or 598,‡ Engineering 506, and either Math 540 or QM 565. At least 15 units shall represent courses offered by the Department of Computer Science. A concentration is possible by completing four of the courses listed under one of the groupings of related courses, including at least two of the starred courses in the selected grouping. Up to six units of approved 400 level work, required to make up the prerequisite deficiencies, may be included in the study plan to satisfy the 30 unit minimum requirement.* Courses offered by other disciplines, not listed here, and related to the students' objectives in computer science may be approved by petition to the Department of Computer Science.

All coursework in the study plan must be completed with a GPA of at least 3.0.

RELATED COURSES

These courses, offered by other departments, may be included on the student's study plan either individually or in a group comprising a concentration as described above.

Information Processing Systems Engineering
Engineering 402L Digital Logic Laboratory (2)
Engineering 405L Digital Computer Design Laboratory (2)
Engineering 424 Computer Simulation of Continuous Systems (3)
Engineering 445 Pulse and Digital Circuits (3)
Engineering 445L Pulse and Digital Circuits Laboratory (2)
Engineering 448 Digital Systems Design (3)
Engineering 506 ☆ Advanced Digital Computer Systems (3)
Engineering 527 ☆ Fault Diagnosis and Finite Automata (3)
Engineering 554 Hybrid Computation (3)
Engineering 558 ☆ Microprocessors and System Applications (3)

Applications, Mathematical Methods
Math 430 Partial Differential Equations (3)
Math 431 Methods of Applied Mathematics (3)
Math 440 ☆ Advanced Numerical Analysis (3)
Math 530 Topics in Applied Mathematics (3)
Math 535 Applied Probability and Statistics (3)
Math 540 ☆ Topics in Numerical Analysis (3)
Math 545 ☆ Approximation Theory (3)
Math 599 Independent Graduate Research (1–3)

Applications, Administrative Information Systems
QM 507 ☆ Organizational Systems and Their Information Requirements (3)
QM 560 Operations Research (3)
QM 565 ☆ File Management and Information Systems (3)

‡ Students are encouraged to petition to satisfy all or part of this requirement with the equivalent course in another department where appropriate to the student's research interests.
* Courses taken to make up deficiencies in prerequisites may not be used to satisfy the requirements for a minimum of 15 units of computer science courses on the study plan.

QM 581 Advanced Statistical Analysis for Business Decisions (3)
QM 448 Digital Simulation (3)
QM 464 ☆ Information Storage and Retrieval (3)

Graduate Student Advisement

The computer science graduate adviser is responsible for advising all computer science graduate students. He may in individual cases delegate this responsibility to another member of the computer science faculty or share the responsibility with a member of another department, as is consistent with the student's interests and objectives. A Computer Science Liaison Committee, consisting of members of each of the Department of Mathematics, the Department of Quantitative Methods and the Division of Engineering, is responsible with the Department of Computer Science, for the related concentrations. Consult the computer science graduate adviser for reference to the appropriate member of this committee. See also "The Program and Master's Degrees" in this catalog and the *Graduate Bulletin.*

COMPUTER SCIENCE COURSES

100 The Computer Revolution (3) (Formerly Engineering 103)
Prerequisite: Three years of high school mathematics including two semesters of algebra. An introduction to digitial computers, how they work, how they are programmed, and their impact on business, education, fine arts, science and government.

112 Introduction to Computer Programming (3) (Formerly QM 266)
Prerequisite: Three years of high school mathematics including two semesters of algebra. An introduction to the use of computers for computer science majors. Through extensive use of algebraic languages, the student is introduced to a range of programming applications. Emphasis is on the information structures and control structures employed by algebraic languages.

210 Introduction to Machine Languages and Logic (3) (Formerly QM 364)
Prerequisite: Computer Sci 112, or QM 265, or Engineering 205, or equivalent. An introductory survey of assembler languages, hardware organization, logic, system software of modern digital computers and number systems.

212 Introduction to Computational Languages (3)
(This course satisfies the requirement formerly met by QM 280 in the computer science program.)
Prerequisite: Computer Sci 112 or equivalent. An overview of computer programming systems, information structures, data representations and applications. Various nonnumerical programming assignments in several different computational languages are made. An appreciation of the dependence of this range of languages upon the classical models of computation is developed.

302 Information Structures (3) (Formerly QM 382)
Prerequisites: Computer Sci 210 and 212 or equivalent. The abstract properties of information structures and their practical employment in information processing applications.

310 Systems Programming (3) (Formerly QM 485)
Prerequisite: Computer Sci 302 or equivalent. The design and implementation of software sysems. Assemblers, compilers and macro processors are discussed from the software engineering perspective and the student is assigned several systems to implement.

402 Introduction to Discrete Structures (3) (Formerly QM 482)
Prerequisites: Computer Sci 302 and Math 150A/B or consent of instructor. Combinatorial and graph theory techniques applied to the study of known and unknown structures, to counting, approximate counting and enumeration of structural configurations, and to resolution of discrete optimization problems.

410 Systems Architecture (3) (Formerly Engineering 458)
Prerequisite: Computer Sci 310 or equivalent. The interdependence of computer structures, language design and operating systems design is explored. The student will implement several systems.

412 Computer Performance Evaluation (3) (Formerly 450)
Prerequisites: Computer Sci 310; QM 461 or Engineering 423 or Math 435. The application of statistics, queuing theory and simulation to the evaluation of alternative strategies for operating system design.

414 Mini-Computer Software Systems (3)
Prerequisite: Computer Sci 310 or equivalent. The design and implementation of software will be

studied by analyzing the software system of an existing mini-computer and by working on a team to implement a significant programming assignment.

440 Theory of Algorithms (3) (Formerly QM 446)
Prerequisites: Computer Sci 302 and Math 281 or equivalent. Analytic techniques are developed for the determination of algorithm efficiency in time and memory requirements. NP-complete problems, complexity hierarchies, and provably intractable problems are discussed.

450 Information Theory and Cybernetics (3) (Formerly QM 480)
Prerequisite: Computer Sci 302. Complex systems in their static aspects, information contents and communications and the dynamic aspects of change, control and stability.

463 Pattern Recognition (3) (Formerly QM 488)
Prerequisites: Computer Sci 302 and QM 461 or Engineering 423 or Math 435. Classification techniques, discriminant functions, training algorithms, potential function theory, supervised and unsupervised learning, feature selection, clustering techniques, multidimensional rotations and rank ordering relations.

465 Principles of Computer Graphics (3)
Prerequisites: Computer Sci 302 and Engineering 402. An examination and analysis of computer interactive graphics; their software structures; display processor organizations; interrupt handling methods; graphical devices; display files; graphical techniques (e.g. clipping, windowing, light pens), character generators.

470 Theory of Computation (3)
Prerequisites: Computer Sci 302 and Math 250. An introduction to the formal theory of computation, the concepts of decidability, algorithms, procedures and the theoretical foundations of computer science.

471 Automata Theory (3) (Formerly QM 486)
Prerequisites: Computer Sci 302 and Math 250 or equivalent. The theory of computation and its relation to modern computing techniques. Includes development of theoretical machines, equivalence theorems, and an introduction to the algebraic theory of recognizers.

475 Computer Applications in Education (3) (Formerly QM 484)
Prerequisite: Computer Sci 210 or equivalent. A survey of computer-assisted and computer-based instruction consisting of a review of present research activities and including: methodology of educational approaches, implementations and present achievements.

487 Artificial Intelligence (3) (Formerly QM 487)
Prerequisite: Computer Sci 302. Selected topics of current interest from heuristic programming, pattern recognition, learning systems, problem solving systems, and formal symbol manipulating systems.

489 Mechanical Theorem Proving and Applications (3)
Prerequisites: Computer Sci 487 or Mathematics 304 or Philosophy 368. A formal discussion of mechanical theorem proving with applications in information retrieval, program analysis, program synthesis and other advanced areas in computer science.

495 Internship in Computer Science (1–3)
Prerequisite: computer science or related major and consent of instructor. Practical experience relevant to computer science in government or private agencies.

499 Independent Study (1–3)
Prerequisite: approval by the chair of the Department of Computer Science.

510 Operating Systems (3) (Formerly QM 584)
Prerequisite: 310 or equivalent. Design and evaluation techniques for controlling automatic resource allocation, providing efficient programming environments and appropriate user access to the system, and sharing the problem solving facilities.

512 Compiler Design (3) (Formerly QM 585)
Prerequisite: Computer Sci 310 or equivalent. Practical techniques for the design of compilers and their relation to formal automata and formal grammars.

563 Mathematical Pattern Recognition (3) (Formerly QM 588)
Prerequisites: Computer Sci 463 and QM 461. A mathematical approach to classification techniques, discriminant function theory, supervised and unsupervised learning, feature selection, clustering techniques, multidimensional rotations and rank ordering relations.

571 Mathematical Automata Theory (3) (Formerly QM 586)
Prerequisites: Computer Sci 470 or 471, and Math 250. A formal, theoretic approach to computation, recursive functions, ambiguity, probabilistic machines and decomposition theory.

572 Formal Languages and Automata (3) (Formerly QM 587)
Prerequisite: Computer Sci 470 or 471. A formal study of finite and infinite languages; the formal relation between generators and acceptors; types of formal grammars; decidability and partial decidability.

597 Project (1–3)
Prerequisites: classified graduate standing and approval of the computer science graduate adviser.

598 Thesis (1–3)
Prerequisites: classified graduate standing and approval of the computer science graduate adviser.

599 Independent Graduate Research (1–3)
Prerequisites: classified graduate standing and approval by the chair of the Department of Computer Science.

DEPARTMENT OF EARTH SCIENCE

FACULTY
John Ryan
Department Chair
Gerald Brem, Christopher Buckley, John Cooper, Neil Maloney, Prem Saint, Margaret Woyski

The Department of Earth Science offers a program leading to the Bachelor of Arts in Earth Science. This program is designed to provide a broad foundation in the earth sciences to prepare students for (1) graduate work in one of the earth sciences; (2) teaching earth science in secondary and elementary schools; (3) employment in earth sciences; (4) other major fields supported by an earth science minor; (5) an avocation and an awareness and understanding of the earth.

BACHELOR OF ARTS IN EARTH SCIENCE

Of the 124 units required for graduation, 40 are in earth science, 37 in related fields, 35 in general education courses (other than related fields) and 12 are undesignated.

Within the general field of earth science the department faculty has particular competence in the areas of tectono-physics (geophysics, seismology and structure), hard-rock geology (mineralogy, petrology, economic, geochemistry), soft-rock geology (sedimentation, stratigraphy, paleontology, petroleum), earth fluids (hydrology, meteorology, oceanography), engineering geology, soil science, and planetary science. *The student must consult an adviser immediately upon entering the major in order to design a course progression best meeting individual desires.* For information on detailed advisement students should contact the Earth Science Department secretary.

To qualify for the B.A. in Earth Science, students must have a C or better in all earth science courses required for the major; students must have a C average in required courses in related fields. A proficiency in a modern foreign language is recommended for students who plan to continue in graduate school. Proficiency in English composition is required.

Minimum Course Requirements for the Major	*Units*
Required courses	26
101 Physical Geology (4)	
201 Earth History (4)	
303A,B Mineralogy and Petrology (3,3)	
321 Sedimentation and Stratigraphy (3)	
360 Structural Geology (3)	
380 Field Geology (3)	
One course from the following:	
333 Oceanography (3)	
335 General Hydrology (3)	
340 General Meteorology (3)	
350 General Astronomy (4)	
Adviser-approved earth science electives	14
Total units required in earth science of which at least 24 must be upper division	40

Recommended High School Preparation
Mathematics—four years, including trigonometry
Chemistry and physics
Modern foreign language—three years
English—four years

Recommended Community College Preparation
Physical and historical geology, with laboratory
Mathematics through preparation for calculus
College chemistry
Introductory physics, if none in high school
Writing skills

Suggested Program for a B.A. in Earth Science

First Semester	*Units*
Earth Science 101	4
Mathematics 100 *	4
General education * including Chemistry 100S, if no high school chemistry	6/7
	14/15
Second Semester	
Mathematics 150A or 130	4
Earth Science 201	4
Chemistry 101A	5
	13
Third Semester	
Earth Science 303A	3
Mathematics 150B or 230	4/3
Chemistry 101B	5
	12/11
Fourth Semester	
Earth Science 303B	3
Physics 225A and 226A or 211A and 212A	4
Biology 101 or 141 or 161	5/4
General education *	3
	15/14
Fifth Semester	
Earth science required course	3
Physics 225B or C and 226B or C or 211B and 212B	4
Engineering 205 or elective in related field	3
General education *	3
	13
Sixth Semester	
Earth science required courses	6
Physics 225B or C and 226B or C or 225D or elective in related field	4/3
General education *	3
	13/12
Seventh Semester	
Earth science required course	3
Earth science elective	3
Geography, upper division *	3
General education *	3
	12
Eighth, Ninth and Tenth Semesters	
Earth science electives	11
Upper division electives	5
General education *	9
Electives	6/10
	31/35

* General education courses should include: English composition or communications (writing), language skills, American history, political science, upper division geography, another social science, three courses in arts and humanities and two electives not required for the earth science major. In case of conflict with courses in related fields, the related fields should be taken first.

Requirements in related fields. Nine courses in related fields are required and should be taken early in the program. These will include:

Two semesters of mathematics: 150A,B; or 130 and 230 with consent of adviser

Two semesters of physics: 225A and 226A, and 225B or C and 226B or C; or 211A,B and 212A,B with consent of adviser

Two semesters of chemistry: 101A,B

One semester of biology: 101 or 141 or 161

and two additional semester courses selected with approval of adviser from courses such as the following:

Computer Science: Engineering 205 or Quantitative Methods 264 or Computer Science 112
Geography: 312, 412, 381, or 484
Mathematics: 250, 281
Physics: 225C or B and 226C or B, 225D
Chemistry: 309, 302, 325, or 312
Biological Science: 461, 463, 316, 401, 419, or 420
Engineering: courses selected in consultation with adviser

Credentials Program

Requirements for waiver of the comprehensive examination for a *teaching credential in physical science* include: Earth Science 101, 201, 210 or 340, 303A,B, 321, 333, 300 or 350, 360, 370, 380; Mathematics 130 and 230; Chemistry 101A,B; Physics 211A,B and 212A,B; Engineering 205; Biol, any two of: 101, 141, 161; Geography 312; Science Education 312; professional education courses.

MINOR IN EARTH SCIENCE

A minimum of 20 units are required for a minor, six of which must be upper division. The courses shall be selected by the student in consultation with his minor adviser. Prospective teachers should include courses in physical geology, earth history, meteorology, astronomy, oceanography, and rocks and minerals.

EARTH SCIENCE COURSES

The department plans to offer in 1977–79 Earth Science 304, 322, 335, 350, 360, 370, 400, 440 in the fall, Earth Science 305, 321, 333, 340, 481, 482 in the spring, and Earth Science 355, 356, 375, 385 and most 400-level courses alternate years. Consult the department for details.

101 Physical Geology (4)

An introduction to the nature of the planet earth, the genesis of rocks and minerals, erosion processes and their effects. (3 hours of lecture or discussion, 3 hours laboratory, 1 field trip, or equivalent)

120 Introduction to Earth Science (3)

Presents non-science majors with an understanding of the nature of our planet, its place in space, its atmosphere and oceans, its interior, and its changing surface.

121 Earth Science Laboratory (1) (Formerly 180)

Prerequisite: Earth Science 120. A beginning course utilizing the practical tools of the earth scientist. Includes rock and mineral identification, fluvial and marine processes, landform recognition from topographic maps, geologic maps, air and space photographs. Laboratory is self-paced. (3 hours laboratory)

201 Earth History (4)

Prerequisite: Earth Science 101, 121 or equivalent or consent of instructor. Evolution of the earth as interpreted from rocks, fossils and geologic structures. Plate tectonics provides a unifying theme for consideration of mountain building, evolution of life and ancient environments. (2 hours lecture, 6 hours laboratory, 1 or 2 field trips)

210 Introduction to Meteorology (3)

Prerequisite: high school physics or chemistry or equivalent. The composition, structure, and circulation of the atmosphere including the origins of storms and other weather disturbances.

303A Mineralogy and Introduction to Petrology (3)

Prerequisites: Earth Science 101, Chemistry 101B; concurrent enrollment in Earth Science 304 recommended. Introduction to crystallography; origin, occurrence, composition and identification of minerals, with emphasis on rock-forming minerals. (2 hour lecture, 3 hours laboratory)

303B Petrology (3)
Prerequisites: Earth Science 101 and Chemistry 100S or 101A; concurrent enrollment in Earth Science 305 recommended. Description, classification, occurrence and origin of igneous, metamorphic, and sedimentary rocks. (2 hours lecture, 3 hours laboratory, field trip)

304 Mineral Recognition (1)
Prerequisite or corequisite: Earth Science 303A or equivalent. Laboratory practice in recognition and identification of minerals and crystals. (3 hours laboratory)

305 Hand Specimen Petrology (1)
Prerequisite: Earth Science 303B or equivalent. Laboratory practice in recognition and classification of rocks. (3 hours laboratory)

310 Directed Readings in Earth Science (1–2)
Directed readings and/or directed investigations into various aspects of earth science. Topics may include the solar system, continental drift, evolution, weather, ancient life, oceanography, rocks and minerals, or geology of California. Not applicable to the major.

321 Sedimentation and Stratigraphy (3)
Prerequisites: Earth Science 201, 303A, 303B (may be taken concurrently). Textural and mineralogic properties of sediments used in discrimination of depositional conditions and environments, classification of sedimentary rocks, and study of stratigraphic patterns. (2 hours lecture, 3 hours laboratory, several field trips)

322 Principles of Paleontology (3)
Prerequisites: Earth Science 201; Biology 101 or 161 or equivalent. A survey of the groups of organisms that have left an important fossil record. Each major group to be studied in light of taxonomy, morphology and systematics, biostratigraphy, paleoecology, and evolutionary trends. (2 hours lecture, 3 hours laboratory, field trips)

333 Oceanography (3)
Prerequisite: Physics 225A or 211A, Chemistry 100S, Math 150A or 130, and Earth Science 120 or 101 or equivalent. An introduction to the chemical, physical and geological nature of the oceans. (2 hours lecture, 3 hours laboratory, one cruise, and one coastal field trip)

335 General Hydrology (3)
Prerequisite: Earth Science 101 or 120, Mathematics 150A or 130. Introduction to the principles governing the nature, occurrence and movement of surface water and groundwater. Practical techniques in evaluating rainfall/runoff relationships, floods, aquifer performance and water quality investigation. (2 hours lecture, 3 hours laboratory)

340 General Meteorology (3)
Prerequisites: Earth Science 120 or 101 or Geography 211; Mathematics 150A or 130; Physics 211A,B or Physics 225A and B or C. Atmospheric processes. Composition and structure of planetary atmospheres, atmospheric radiation, thermodynamics of moist air, precipitation mechanisms, elementary atmospheric dynamics. Some map analysis and use of thermodynamic diagrams.

350 General Astronomy (4)
Prerequisite: Mathematics 150A and Physics 225A; 225C recommended. Origin and evolution of universe and solar system. Topics include: galactic structure; stellar evolution and types; our Sun as a star; nucleosynthesis; planetary relations to universe; and astronomical measurement techniques. Directed toward science majors. (3 hours lecture, 3 hours laboratory) (Same as Physics 350)

355 Planet Earth (3)
Prerequisite: Mathematics 150A,B; Physics 225A, Physics 226A, and Chemistry 101B or equivalent. Current state of knowledge about geophysical, geochemical properties of mantle and core. How knowledge has been obtained and impact of internal processes on crustal/surface phenomena.

356 Introduction to Applied Geophysics (3)
Prerequisites: Mathematics 150A,B; Physics 225A,B, 226A,B; 10 units earth science. Seismic refraction, gravity, magnetic and electrical techniques and fundamentals as applied to determination of subsurface structure, groundwater and location of mineral resources. Field use of instruments, data reduction and analysis. (2 hours lecture, 3 hours laboratory and field)

360 Structural Geology (3)
Prerequisites: Earth Science 303A,B; Physics 211A or 225A. Introduction to structural geology. Topics covered include description of faults, folds, mechanics of rock deformation, and elementary tectonics; solution of problems by geometric, trigonometric and stereographic analysis. (2 hours

lecture, 3 hours laboratory and/or field—some weekends)

370 Earth Resources and Environment (3)

Prerequisites: Earth Science 101 or equivalent. Geological hazards and man's interaction with earth processes and earth resources, with emphasis on environmental planning and management. (2 hours lecture, 3 hours laboratory or field)

375 Engineering Earth Science (3)

Prerequisites: Earth Science 380, Mathematics 150A, Physics 211A. Engineering properties of rocks and soils; exploration techniques; analysis of earth science principles applicable to engineering problems, report preparation and professional responsibility. (2 hours lecture, 3 hours laboratory or field)

380 Field Geology (3)

Prerequisites: Earth Science 303A,B, 321, 360 (may be taken concurrently). Techniques and basic concepts of field geology, use of topographic maps in geologic mapping, preparation of geologic maps, structure sections and written reports. (1 hour lecture, 6 hours field, weekends or in field camp)

385 Applications of Computers to Earth Science (3)

Prerequisites: Mathematics 230 and Engineering 205 or Quantitative Methods 265, and 10 units of earth science. Use of computers in solving problems in the earth sciences. Typical computer-oriented research problems in the earth sciences.

400 Optical Methods (3)

Prerequisites: Earth Science 303A,B; Physics 211B or 225C recommended. Principles of optical crystallography. Optical identification of minerals. Introduction to examination of rocks in thin section. (2 hours lecture, 3 hours laboratory)

404 Petrography (3)

Prerequisites: Earth Science 400. Composition, occurrence, and origin of igneous, sedimentary, and metamorphic rocks in microscopic study. (1 hour lecture, 6 hours laboratory)

405 Igneous and Metamorphic Petrology (3)

Prerequisites: Earth Science 303A,B; Chemistry 101B. Composition and origin of igneous and metamorphic rocks. (2 hours lecture, 3 hours laboratory)

406 Geochemistry (3)

Prerequisites: Earth Science 303A,B, Chemistry 101B, Mathematics 150A,B. Basic chemical and thermodynamical principles applied to the origin and alteration of igneous, sedimentary and metamorphic rocks and economic mineral deposits.

407 Instrumental Methods in Earth Science (3)

Prerequisites: Earth Science 303A,B, Chemistry 101B. Determination of rock and mineral compositions by density determinations, x-ray diffraction, x-ray fluorescence, atomic absorption spectrometry, differential thermal analysis, wet geochemical analysis, electron microprobe and mass spectrometry. (1 hour lecture, 6 hours laboratory)

410 Special Topics in Earth Science (2–3)

Prerequisites: a course in upper division earth science; junior or senior standing. Research concepts and techniques applied to a special topic. May be repeated for credit with consent of instructor.

415 Soil Science (2)

Prerequisite: Earth Science 303A,B. The composition, evolution and distribution of soil types with field and laboratory examination of mineralogical, physical and chemical properties of soils for agriculture, structural and urban development applications. (1 hour lecture, 3 hours laboratory)

422 Invertebrate Paleontology (3)

Prerequisites: Biology 461 (previous or concurrent enrollment). The major groups of invertebrates that have left a fossil record. Evolutionary trends and history, taxonomy, and paleoecology. (2 hours lecture, 3 hours laboratory)

423 Advanced Sedimentology and Stratigraphy (3)

Prerequisites: Earth Science 303A,B and 321. Case histories from literature illustrate concepts, methods, and results in sedimentology/stratigraphy analysis. Field and lab work center around student research on actual problems; research to culminate in paper with professional format. (2 hours lecture, 3 hours laboratory)

431 Physical Oceanography (3)

Prerequisites: Earth Science 333 or equivalent, Chemistry 101A,B, Physics 211A,B or 225A, Mathematics 150A. Physical properties of sea water, water masses, ocean currents, underwater sound, waves and tides. (2 hours lecture, 3 hours laboratory, one field trip)

432 Marine Geology (3)
Prerequisites: Earth Science 360 and Chemistry 101A. The composition, origin, and processes modifying the ocean floor. Coastal processes, continental margins, deep-sea fans, abyssal plains, trenches, mid-ocean ridges and sea floor spreading. (2 hours lecture, 3 hours laboratory)

435 Hydrogeology (3)
Prerequisites: Earth Science 303, 335 and 360 or equivalent. Advanced investigations in an elected field of hydrology, arid zone hydrology, regional hydrology and field hydrology. (2 hour lecture, 3 hours laboratory)

436 Groundwater Exploration and Development (3)
Prerequisites: Earth Science 335, 356, 360, or equivalent. Occurrence, movement and utilization of groundwater resources; geological, geophysical and hydrological methods for groundwater exploration. (2 hours lecture, 3 hours laboratory, field trips)

437 Water Quality Investigations and Control (3)
Prerequisites: Earth Science 335, Chemistry 101A,B. Methods in sampling strategy. Evaluation of chemical data for quantitative interpretation of water quality status and trends, surface and subsurface. Techniques for graphic representation, water contamination source identification, and control. (2 hours lecture, 3 hours laboratory and field)

440 Dynamic and Physical Meteorology (3)
Prerequisites: Earth Science 340, Mathematics 150A,B, Physics 225A,D, or equivalent. Atmospheric motion, physics of clouds and precipitation, atmospheric radiation and micrometeorology.

450 Planetary Science (3)
Prerequisites: Earth Science 350; Mathematics 150B; Physics 225D recommended. Nature and evolution of moon, terrestrial planets. Geological, geophysical and geochemical aspects of surfaces, interiors, atmospheres. Knowledge being obtained by planetary exploration. Emphasis on application of knowledge gained to understanding Earth.

455 Earthquake Seismology (3)
Prerequisites: Mathematics 150A, Physics 225A; Mathematics 150B, Physics 225C, Earth Science 355 recommended. Earthquake measurement, characteristics and mechanisms. Magnitude, intensity, source locating. Prediction and prevention principles and techniques. Seismic risk. Current research directions. Emphasis on southern California seismicity including case study. (3 hours lecture, one field trip)

456 Advanced Applied Geophysics (3)
Prerequisites: Earth Science 356, Mathematics 150B; Physics 225C recommended. Seismic reflection technique as applied to determination of subsurface structure and location of mineral resources. Fundamental principles, current instrumentation, modern data gathering, reduction, display, analysis techniques, and interrelation with geologic investigations.

460 Regional Tectonics (3)
Prerequisites: Earth Science 360. Investigation of regional tectonics, evolution of major structural units; orogenic belts, and plate tectonics; emphasis on the Cordillera and Alps.

471 Mineral Deposits (3)
Prerequisites: Earth Science 303A,B, 304, Chemistry 101A,B, or equivalent. Processes of mineral deposit formation; classification, characterization, and distribution of metallic and nonmetallic mineral deposits. (2 hours lecture, 3 hours laboratory)

481 Geology Field Camp (4)
Prerequisites: Earth Science 303, 321, 360, 380. Geologic field mapping, operating from a field camp under primitive conditions in an area of varying geologic complexity. Field report, map and cross-sections due one week after departing camp. (Forty-five hours a week for four weeks.)

482 Geologic Surveying (3)
Prerequisites: Earth Science 303A,B, 360 and trigonometry. Applications of surveying to the solution of geologic problems. (1 hour lecture, 6 hours field work)

490 Earth Science Internship (3)
Prerequisite: junior or senior standing in earth science. Earth science work experience, salaried or volunteer, with industry, government or private agencies. Student intern will be supervised by faculty adviser as well as by his employer. (1 hour of seminar plus a total of 120–150 hours of work experience)

496L Earth Science Tutorial (2)
Prerequisite: 20 units in earth science. Supervised experience in earth science teaching through

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tutoring or assisting in laboratory or field classes.

499L Independent Study (1–3)

Independent study of a special topic selected in consultation with instructor and carried out under his/her supervision. May be repeated for credit.

DIVISION OF ENGINEERING

FACULTY

Jack Kemmerly
Division Chair

Richard Brock
Chair, Civil Engineering and Engineering Mechanics

Charles Medler
Chair, Electrical Engineering

James Rizza
Chair, Mechanical Engineering

Henry Busby, Joseph Butterworth, George Chiang, George Cohn, Munir El-Saden, Mohinder Grewal, Eugene Hunt, Sundaram Krishnamurthy, Young Duck Kwon, Timothy Lancey, James McKee, Peter Othmer, Irene Petroff, Dindial Ramsamooj, Chennareddy Reddy, Edward Sowell, Floyd Thomas, Jr., Jesus Tuazon, Mahadeva Venkatesan

The Division of Engineering offers programs at the undergraduate and graduate levels. At the undergraduate level the division prescribes certain engineering courses combined with those of other academic departments and schools of the university as a program of 132 semester units leading to the Bachelor of Science degree in Engineering. At the graduate level the division offers the Master of Science degree in Engineering based on an approved sequence of 30 semester units of course-work. In the graduate program, specific options in major fields are offered.

BACHELOR OF SCIENCE IN ENGINEERING

The undergraduate program is accredited by the Engineers' Council for Professional Development. The objective of the undergraduate engineering program is to form a broad base of science, mathematics, social science, humanities and engineering science—coupled with a specialization in an area of concentration. Students are thus prepared to enter directly into engineering practice or to continue further education at the graduate level.

The heart of the engineering program is a core which includes courses in mathematics, physics, chemistry, basic engineering sciences, social sciences and the humanities and provides a firm basis for more specialized knowledge at an advanced level. During the first 2½ years of study all students in engineering take the same program emphasizing the interrelationship of the primary engineering subjects which form the broad background required of modern-day engineers. During the junior and senior years, a student chooses a minimum of 27 units of technical electives to complete his program with enough specialization in an area of emphasis to initiate a successful engineering career.

The program of 132 semester units presumes that the entering student brings a high school preparation which includes geometry, trigonometry and two years of algebra and one year of physics or chemistry. Students deficient in mathematics, physics or chemistry must take special preparatory courses, i.e., Mathematics 100, Precalculus Mathematics, or equivalent, and Chem 100, which will not carry credit for graduation.

Transfer Students

A transfer student shall complete a minimum of 24 units in residence of which at least 15 shall be taken in upper-division engineering courses. Work taken at another college or university on which a grade of D was earned may not be substituted for upper-division courses.

A smooth transition from a community college into upper-division engineering is assured when the following program, as a minimum, has been completed. Students deficient in any of these areas may look to the summer session bulletin for offerings that may make up any deficiencies:

	Minimum Number of Semester Units
Analytic geometry and calculus	15
Chemistry (for engineering and science majors)	8
Physics (for engineering and science majors)	12
Engineering graphics	3
Properties of engineering materials	2
Computer programming (FORTRAN)	3

Analytical mechanics (statics)	3

Engineering Liaison Committee Statement

The Division of Engineering subscribes to the following statement approved by the Engineering Liaison Committee of the State of California:

"Based on the 1970–71 requirements, any student of a California community college, with a stated major in engineering, who presents a transcript showing satisfactory completion of the following proposed core program in lower division, will be able to enroll in this institution with regular junior standing; and further, assuming normal progress, said student can complete an engineering program in four additional semesters with a regular bachelor's degree, presuming, upon transfer, that he has completed at least 50 percent of the graduation unit requirements in that program. Completion of a specific program of his choice will be dependent upon his proper selection of elective courses.

Subject Area	*Semester Units*	*Quarter Units*
Mathematics (beginning with analytical geometry and calculus and completing a course in ordinary differential equations)	16	24
Chemistry (for engineers and scientists)	8	12
Physics (for engineers and scientists)	12	18
Statics	3	4
Graphics and descriptive geometry	3	4
Computers (digital)	2	3
Orientation and motivation	1	1
Properties of materials	3	4
Electric circuits	3	4
Electives	11–15	17–23"

Technical Electives

The student chooses an emphasis during the junior year or earlier in civil engineering and engineering mechanics, electrical engineering, or mechanical engineering. Within the overall concept of a broad general background with enough specialization to become a productive engineer upon graduation, a student may further specialize in such areas as electronics, communications, control systems, digital systems, power and energy, design and materials, thermal and fluids engineering, structural systems and design, applied mechanics, water resources and soils engineering.

After choosing an emphasis the student shall submit a proposed study plan consisting of at least 27 units of upper division technical courses to his faculty adviser for approval. Approval must be granted before the end of the student's fifth semester.

While his study plan need not be contained within one area of emphasis, it shall include a sufficient number of courses to provide continuity and depth of understanding within a given area of specialization. It shall also include two senior laboaratory courses and one design course and the prerequisite courses thereto. This study plan must be approved by the student's adviser before taking any technical electives. Every engineering student will be expected to have completed Egr 205 before beginning his technical elective program.

Students who want to be considered for an engineering science program, should file a special application to the chair of the Division of Engineering by the end of the fourth semester. The program in engineering science is to be selected by the student and his adviser and submitted for approval to a committee of the Division of Engineering (supplemented, if appropriate, by members of the science and mathematics faculty). Such a program must include the two senior engineering laboratories and senior engineering design course and their prerequisites. Courses are to be selected from upper division engineering, science and mathematics offerings to meet a special and specific engineering science objective of the student such as engineering physics.

MINIMUM REQUIREMENTS FOR UNDERGRADUATE DEGREE

Lower Division Science and Mathematics (All required for B.S.)	*Units*
* Math 150A,B Analytic Geometry and Calculus	8
Math 250 Intermediate Calculus	4
Math 281 Linear Algebra with Differential Equations	3
Chem 101A General Chemistry	5

* Students with inadequate preparation for Math 150A will take Math 100, Precalculus Mathematics.

Chem 105 General Chemistry for Engineers	3
Physics 225A,B,C Fundamental Physics	9
Physics 226A,B,C Fundamental PHysics Laboaratory	3
	35

Non-Engineering General Education 28

The engineering student will take at least 24 units from Areas II and III of the general education requirements for the bachelor's degree, six units of which may meet the U.S. History and government requirements. He will follow, as a minimum, the universitywide requirements, adding courses at his discretion to make 24 units. An additional four units, for a total of 28 must be specifically approved by his adviser and will be recommended to assure the best balance for the student's education. A student shall be limited to a maximum of six units of activity courses.

Lower Division Engineering (All required for B.S.)

Egr 102 Graphical Communications	3
Egr 201 Mechanics	3
Egr 202 Material Science	3
Egr 203 Electric Circuits	4
Egr 203L Electric Circuits Laboaratory	1
Egr 205 Digital Computation	3
	17

Upper Division Engineering (All required for B.S.)

Egr 301 Strength of Materials	3
Egr 302 Dynamics	3
Egr 303 Electronics	3
Egr 303L Electronics Laboratory	1
Egr 304 Thermodynamics	3
Egr 305 Transport Processes	3
Egr 306A Unified Laboratory	1
Egr 306B Unified Laboratory	2
Egr 308 Engineering Analysis	3
Egr 370 Seminar in Engineering	1
Egr 417 Engineering Economy	2
	25
Technical Electives	27
Total	132

DETAILED OUTLINE OF TYPICAL † EIGHT-SEMESTER PROGRAM FOR B.S. IN ENGINEERING (132 Units)

Semester 1 Freshman	*Units*
General educational elective	4
Math 150A Calculus	4
Chem 101A General Chemistry	5
Egr 102 Graphical Communications	3
	16
Semester 2 Freshman	
Math 150B Calculus	4
Physics 225A Fundamental Physics (Mechanics)	3
Physics 226A Fundamental Physics Laboratory	1
Chem 105 General Chemistry for Engineers	3
Egr 205 Digital Computation	3
General education elective	3
	17
Semester 3 Sophomore	
General education electives	6
Math 250 Intermediate Calculus	4

† NOTE: This program is merely a guide. The student may lighten his academic load each semester to meet his needs.

126 9 4 535

Physics 225B Fundamental Physics (Electricity and Magnetism)	3
Physics 226B Fundamental Physics Laboratory	1
Egr 201 Mechanics	3
	17

Semester 4 Sophomore

General education electives	3
Math 281 Linear Algebra with Differential Equations	3
Egr 202 Material Science	3
Egr 203 Electric Circuits	4
Physics 225C Fundamental Physics (Modern Physics)	3
Physics 226C Fundamental Physics Laboratory	1
	17

Semester 5 Junior

General education electives	3
Egr 203L Electric Circuits Laboratory	1
Egr 304 Thermodynamics	3
Egr 305 Transport Processes	3
Egr 306A Unified Laboratory	1
Egr 302 Dynamics	3
Egr 308 Engineering Analysis	3
	17

Semester 6 Junior

Egr 301 Strength of Materials	3
Egr 303 Electronics	3
Egr 303L Electronics Laboratory	1
Egr 306B Unified Laboratory	2
Engineering technical electives	6
	15

Semester 7 Senior

General education electives	3
Egr 417 Engineering Economy	2
Engineering technical electives	12
	17

Semester 8 Senior

General education electives	6
Engineering technical electives	9
Egr 370 Seminar in engineering	1
	16
Total	132

MASTER OF SCIENCE IN ENGINEERING

Applicants, as well as continuing students, should read carefully the university requirements for master's degree programs.

Admission Procedure

The procedural steps for admission to the master of science program in engineering are as follows:

1. Apply for admission to the university in graduate standing.
2. Declare the objective to be a Master of Science in Engineering at the time of admission.
3. If Step 2 is not accomplished at the time of admission, then the student must file a graduate application for a Change of Academic Objective form before being admitted to the Division of Engineering.
4. Proof of a degree from a college or univerity must be supplied. This must be sent from the institution from which the student graduated to the Cal State Fullerton Office of Admissions when the request is received from Cal State Fullerton.

Prerequisites

An applicant must meet the university requirements for admission in conditionally classified graduate standing: a baccalaureate degree from an accredited institution and a grade-point average of at least

2.5 in the last 60 semester units attempted.

A student who meets the requirements for conditionally classified graduate standing, as well as the following requirements, may be admitted as a classified graduate upon the development of an approved study plan.

A 2.5 undergraduate grade-point average and satisfactory coursework in the enginering field. However, students may be considered with grade deficiencies. Any deficiencies must be made up, and will require six or more units of adviser-approved courses with at least a 3.0 average in addition to those required for the degree. In addition, a committee of the engineering faculty will evaluate each student's record for specific course deficiencies in the engineering field. Making suitable allowance for actual engineering experience, the committee will require each student, prior to classified standing in the program, to make up such deficiencies as the committee determines. A student who does not have a B.S. in Engineering from an Engineers' Council for Professional Development accredited program or who has a B.S. degree outside of engineering may have to make up these deficiencies.

NOTE: A student may be required to take the engineering mathematics review course Post-Baccalaureate Course 303. This course is open to all who may feel the need for such a refresher course. It is to be taken in addition to those required for the degree.

Achievement of classified graduate standing includes the following:

1. Completion of all required work which may have been specified to make up deficiencies.
2. Before completing nine units at Cal State Fullerton toward a M.S. degree, a student shall fill out an application for classified standing card in the Office of the Dean of Graduate Studies and make an appointment with the adviser at the office of the Division of Engineering.
3. Preparation, in consultation with the adviser, of a graduate study plan which must be approved.

Advancement to Candidacy

Achievement of this status requires the following:

1. Having been granted classified standing in the Master of Science in Engineering program.
2. Having completed 12 units of coursework on his master's degree study plan with a GPA of not less than 3.0, including six units of 500-level courses.
3. Filing an advancement to candidacy card in the Office of the Dean of Graduate Studies.

Graduation

Final achievement of the Master of Science in Engineering requires:

1. Having been admitted to candidacy.
2. Filing a request for check on completion of requirements during registration and prior to the appropriate deadline.
3. Having completed 30 units of approved work with an overall GPA of not less than 3.0.
4. Completing satisfactorily a final comprehensive examination.
5. Receiving approval of the faculty of the Division of Engineering and the dean of graduate studies.

The Program for the Master of Science in Engineering

Qualification for the Master of Science in Engineering requires the following:

1. Completion of a minimum of 30 units of adviser-approved upper division or graduate-level work including:
   (a) Egr 403 and a minimum of three units of approved mathematics-oriented upper division or graduate courses (certain engineering courses fulfill this requirement),
   (b) not less than one-half of the units required for the degree shall be in approved graduate (500-level) courses,
   (c) a minimum of 15 units in a specific area of concentration.
2. An overall GPA of 3.0.
3. Satisfactory completion of a final oral comprehensive examination.

At the discretion of the Master of Science degree candidate, subject to the approval of his adviser, the student may make an oral defense of a project or thesis (3–6 units) instead of taking the comprehensive oral examination. In order to make this substitution the student must either prepare a thesis, subject to the University's requirements, or submit a formal report of the project for review and approval by a committee of two or three faculty members. Guidelines for formal reports are available in the division office. A typed draft of the project report or thesis must be submitted to the reviewing committee for approval at least eight weeks prior to the last day of classes, and a final version submitted for final approval at least four weeks prior to the last day of the semester in which the oral defense is scheduled.

A candidate for the Master of Science in Engineering may pursue one of five options currently offered by the Division of Engineering:

Civil engineering and engineering mechanics
Electrical engineering
Mechanical engineering
Systems engineering
Engineering science

A student is required to select a minimum of 15 units within these options. These 15 units may be 400-level and 500-level courses. The 500-level courses are listed below:

Civil Engineering and Engineering Mechanics

Egr 508 Advanced Inviscid Fluid Flow (3)
Egr 509 Theory of Plates and Shells (3)
Egr 510 The Finite Element Method (3)
Egr 525 Unsteady Hydraulics (3)
Egr 529 Open Channel Hydraulics (3)
Egr 530 Advanced Strength of Materials (3)
Egr 532 Earthquake Engineering (3)
Egr 533 Matrix Analysis of Structures (3)
Egr 534 Surface Water Hydrology (3)
Egr 537 Groundwater and Seepage (3)
Egr 539 Advanced Coastal Engineering (2)
Egr 544A Advanced Foundation Engineering (3)
Egr 544B Advanced Foundation Engineering (3)
Egr 546 Advanced Soil Mechanics and Foundation Engineering (3)
Egr 548 Soil Dynamics (3)
Egr 549 Theory of Elastic Stability (3)
Egr 552 Heavy Construction Engineering—Theory & Practice (3)
Egr 574 Seminar: Topics in Hydraulics (3)
Egr 592 Advanced Engineering Analysis (3)

Electrical Engineering

Egr 501A,B Microwaves (3,3)
Egr 502 Electromagnetics (3)
Egr 503 Information Theory and Coding (3)
Egr 504A Linear Network Synthesis (3)
Egr 504B Linear Active Networks (3)
Egr 505 Control System Design (3)
Egr 506 Advanced Digital Computer Systems (3)
Egr 507 Statistical Communication Theory (3)
Egr 513 Optimal Control Systems (3)
Egr 521 Antenna Theory (3)
Egr 523A Solid State Devices and Integrated Circuits (3)
Egr 523B Large Scale Integrated Circuits (3)
Egr 527 Fault Diagnosis and Finite Automata (3)
Egr 531 Phase-Locked and Frequency Feedback Systems (3)
Egr 540 Computer Applications in Engineering Design (3)
Egr 550A,B Plasma Dynamics (3,3)
Egr 551 Modern Network Theory (3)
Egr 555 Electromagnetic Field Theory (3)
Egr 558 Microprocessors and System Applications (3)
Egr 570 Seminar in Electrical Engineering (1–3)
Egr 572 Seminar: Topics in Control Theory (3)
Egr 581 Theory of Linear Systems (3)
Egr 582 Linear Estimation Theory (3)
Egr 592 Advanced Engineering Analysis (3)

Mechanical Engineering

Egr 500 Nuclear Reactor Design (3)
Egr 508 Advanced Inviscid Fluid Flow (3)
Egr 511 Advanced Mechanical Vibrations (3)

Egr 512 Advanced Mechanical Design (3)
Egr 516 Advanced Radiation Heat Transfer (3)
Egr 520 Advanced Viscous Fluid Flow (3)
Egr 522 Design of Fluid Film Bearings (3)
Egr 524 Advanced Thermodynamics (3)
Egr 526 Advanced Convective Heat Transfer (3)
Egr 530 Advanced Strength of Materials (3)
Egr 536 Advanced Conduction Heat Transfer (3)
Egr 540 Computer Applications in Engineering Design (3)
Egr 560 Fluid-Solid Interactions (3)
Egr 576 Advanced Dynamics and Control of Mechanical Systems (3)
Egr 592 Advanced Engineering Analysis (3)

Systems Engineering

Students selecting the systems engineering option will be required to include the following four courses in their study plans:

Egr 581 Theory of Linear Systems (3)
Egr 582 Linear Estimation Theory (3)
Egr 585 Optimization Techniques in Systems Engineering (3)
Egr 587 Operational Analysis Techniques System Engineering (3)

The remainder of the systems engineering study plan will include other engineering courses with an emphasis in a particular field such as information systems, control theory, computer systems, or civil or mechanical engineering applications. Students possessing a Bachelor of Science in Engineering may elect to include up to nine units from approved subjects offered by the School of Business Administration and Economics as a part of their study plan.

Engineering Science

The program in engineering science is to be selected by the student and his adviser and submitted for approval to a committee of the Division of Engineering (supplemented, if appropriate, by members of the science and mathematics faculty). The courses selected are to meet a special and specific engineering science objective of the student, such as engineering physics.

In addition to those courses offered in the specific options, the following three courses apply to any option, though they are not necessarily required:

Egr 597 Project (1–6)
Egr 598 Thesis (1–6)
Egr 599 Independent Graduate Research (1–3)

For further information, consult the Division of Engineering. See also "The Program of Master's Degrees" and the *Graduate Bulletin*.

ENGINEERING COURSES

102 Graphical Communications (3)

Graphics as a fundamental means of communication in design. Development of spatial visualization. Freehand sketching, shading, orthographic projection. oblique-isometric and perspective pictorials. Dimensioning, descriptive geometry, design procedure and design projects. (1 hour lecture, 6 hours laboratory)

201 Mechanics (3)

Prerequisites: Math 150B and Physics 225A. An introductory development of the fundamentals of statics with engineering applications.

202 Material Science (3)

Prerequisites: Chem 101 and Physics 225A. Scientific and engineering principles important in selection of materials in design. Concepts of stress, strain, electrical and magnetic properties. Introduction to crystalline structure and imperfections, environmental effects and other selected topics from material science. Metallic, organic and ceramic substances are considered.

203 Electric Circuits (4)

Prerequisites: Physics 225B and Math 250. Ohm's and Kirchhoff's laws; mesh and nodal analysis; basic network theorems; RL and RC transients; phasors and steady-state sinusoidal analysis; current, voltage and power relationships; polyphase circuits; magnetic coupling; elementary transformers and electrical machines.

203L Electric Circuits Laboratory (1)
Corequisite: Egr 203. Experimental investigation of simple resistive RL and RC circuits; electrical measurement techniques; study of transformers; performance tests on electrical machines. (3 hours laboratory)

205 Digital Computation (3)
Prerequisites: college algebra or three years of high school mathematics including a second course in algebra. Introduction to computers and their numerical applications. Elementary FORTRAN programming language, digital computation methods in statistics and solving algebraic equations.

207 Pollution and Politics (3)
The scientific/technological, political/legal and philosophical aspects of pollution problems and their possible solutions. A systematic and unified examination of environmental control, with a review of extant technological solutions and the political, economic and human factors that prevent or retard their application. Cannot be applied toward a B.S. in Engineering.

208 Current Technological Problems in Southern California (3)
A study of existing and developing technologies that can help to solve—or worsen—problems of public concern in Southern California. For non-engineering majors with no particular science background. Covers fundamentals of mass transportation, electric power generation, waste disposal, and water supply. Cannot be applied toward a B.S. in Engineering.

220 New Energy Sources (3)
A study of energy supply and demand; power generating plants and the environment; new faces and old fuels; nuclear power; breeder and fusion reactors; geothermal energy; solar energy; a national energy policy. Not applicable to a B.S. in Engineering.

290 Preprofessional Work Experience (1)
Prerequisite: Sophomore or upper division standing in engineering program and consent of instructor. Preprofessional engineering work in an industrial or governmental engineering environment; introduces the student to practices used in drafting, laboratory, machine shop, and other process areas. May be repeated for credit, up to a maximum of six units. Not applicable to a B.S. in Engineering.

301 Strength of Materials (3)
Prerequisites: Math 250 and Egr 201. States of stress and strain. Analysis and design of structural elements (pressure vessles, beams, torsion bars, springs), fracture criteria, statically indeterminate problems, energy methods, buckling of columns.

302 Dynamics (3)
Prerequisites: Math 250 and Egr 201. Kinematics and Kinetics of particles and rigid bodies, Newton's laws, work and energy, impulse and momentum. Solution of problems by using vector approach is emphasized.

303 Electronics (3)
Prerequisites: Physics 225C, Egr 203 and 203L; corequisite: Egr 303L. Characteristics and applications of semiconductor diodes; the p-n junction, field-effect transistors, bipolar-junction transistors, applications to wave shaping and digital circuits and amplifiers; introduction to two-port linear models.

303L Electronic Laboratory (1)
Corequisite: Egr 303. Experimental study of semiconductor diodes, transistors, and elementary electronic circuits. (3 hours laboratory)

304 Thermodynamics (3)
Prerequisites: Chem 105, Math 150B and Physics 225A; corequisite: Egr 205 or consent or instructor. The study of energy and its transformation which encompasses heat and work and the conservation of mass and energy, the system properties irreversibility and availability. The ideas are conveyed through the detailed study of ideal gases, heat engines and refrigeration (both ideal and actual).

305 Transport Processes (3)
Prerequisites: Math 250 and Egr 201. Principles of similitude and dimensional analysis. Fluid statics. One dimensional steady state heat conduction. Elements of Radiative heat transfer. One dimensional steady flow analysis. Free and forced convective heat transfer in incompressible laminar and turbulent flow.

306A Unified Laboratory (1)
Corequisites: Egr 202 and 305. Observations and measurements in the laboratory as an introduction

to the experimental method. Static and dynamic measurements are made on simple engineering systems (beams, columns, pendulum, gyroscopes) using mechanical and electrical transducers. Report writing is emphasized. (3 hours laboratory)

306B Unified Laboratory (2)

Prerequisite: Egr 306A. Continuation of Egr 306A. Flow measurement techniques using orifice plates, venturimeters. Pitot probes and nozzles. Temperature and pressure measurement. Experimental studies of fluid friction and heat exchanger performance. Role of the digital calculator and computer in data reduction and analysis. Continued emphasis on technical report writing. (1 hour lecture, 3 hours laboratory)

307 Introduction to Chemical Engineering (3)

Prerequisites: Chem 101B or 105, Math 150B, Physics 225B. An introduction to chemical engineering through the application of fundamental physical-chemical principles to the solution of industrial chemical process problems. Emphasis on material and energy balances.

308 Engineering Analysis (3)

Prerequisites: Physics 225B, Math 281 or consent of instructor. Fundamentals and engineering applications of Fourier series, Fourier transforms, Laplace transforms, complex analysis, vector analysis; engineering applications.

309 Network Analysis (3)

Prerequisites: Egr 203, 203L, 205 and 308. Performance of RLC circuits; complex frequency and the s-plane; frequency response and resonance; network topology; two-port network characterization; classical filter theory.

310 Electronic Circuits (3)

Prerequisites: Egr 205, 303 and 309. Continuation of 303, multistage amplifiers and feedback; frequency characteristics of amplifiers, frequency characteristics and stability of feedback amplifiers, oscillators and operational amplifiers.

311 Field Theory and Transmission Lines (3)

Prerequisites: Physics 225B and Math 281. Review of electrostatics and magnetostatics; introduction to boundary value problems; magnetic materials and the magnetic circuit; magnetic induction; Maxwell's equations and the formulation of circuit concepts; transmission lines.

313 Introduction to Electromechanics (3)

Prerequisites: Egr 309 and 311. Electromagnetic fields and circuits; transformers, saturation effects. Simple electro-mechanical systems. Circuit models, terminal characteristics and applications of DC and AC machines.

316 Intermediate Thermodynamics (3)

Prerequisites: Egr 205 and 304. Continuation of Egr 304, additional coverage of power and refrigeration cycles. Maxwell's relations, mixtures of real and ideal fluids, chemical reactions (emphasis on combustion), phase and chemical equilibrium. (Offered every third semester.)

320 Metallurgy (3)

Prerequisite: Egr 202. Structure and properties of metals and alloys influences of mechanical and thermal treatments, plastic deformation, work hardening and recrystallization, grain growth, alloy diagrams, solution hardening, diffusion hardening, precipitation hardening, the iron-carbon system, composite materials, brittle, creep and fatigue failures. (Offered every third semester.)

320L Engineering Metallurgy Laboratory (1)

Corequisite: Egr 320. Study of microstructure of materials, cold work and heat treatment, use of microscope and sample preparation, fatigue testing and failure analysis. (3 hours laboratory)

324 Soil Mechanics (3)

Prerequisite: Egr 301. Soil properties and soil action as related to problems encountered in engineering structures; consolidation, shear strength, stability and lateral earth pressures.

325 Soil Mechanics for Science Students (2)

Prerequisites: Physics 211A,B and Math 130. Soil properties and soil action as related to problems encountered in geotechnical engineering; consolidation, shear strength, stability and lateral earth pressures. Emphasis on laboratory testing. Interdisciplinary approach. (For non-engineering students only.) (1 hours lecture, 3 hours laboratory)

326 Structural Design (3)

Prerequisite: Egr 301. Elements of the design of steel and timber members. Connection details. Design of complete structures for both vertical and lateral loads.

327 Concepts in Materials and Structures (3)
Concept of Mechanics as applied to structures. Strength and stiffness of material such as steel, concrete, timber, plastics, masonry, etc. Design considerations for one, two and three dimensional configuration such as cables, frames, trusses, domes, shells, etc. Intended for art majors in environmental design.

331 Mechanical Behavior of Materials (3)
Prerequisite: Egr 202. Plastic deformation and hardening mechanisms, creep phenomena. Fatigue. Behavior at cryogenic temperatures. Fabrication processes and their effects on properties. Testing of materials. (Offered every other year)

333 Fluid Mechanics and Aerodynamics (3)
Prerequisites: Egr 205 and 305. Pipe flow analysis. Elements of compressible and open channel flows. Introduction to two dimensional inviscid flow analysis. Methods of flow measurements. (Offered every third semester)

335 Mechanical Analysis (3)
Prerequisites: Egr 205, and 302; corequisite: Egr 335L. Kinematics and dynamics of mechanisms, design and analysis of linkage gears, cams, etc., using analytical and graphical techniques, balancing.

335L Mechanical Analysis Laboratory (1)
Prerequisite: Egr 102; corequisite: Egr 335. Analytical and graphical techniques will be used in solving engineering type problems in mechanical design. (3 hours laboratory)

336 Instrumentation for Life Sciences (3)
Prerequisite: junior standing. An introduction to the principles of sensing, measuring and recording biological variables and movement. Emphasis on teaching the student to apply general knowledge of instrumentation to problems in his field of interest. Cannot be taken for credit toward a B.S. in Engineering.

370 Seminar in Engineering (1)
Prerequisite: senior standing in engineering. the engineering profession, professional ethics, and related topics. May be repeated once for credit with the approval of the faculty chair.

375 Electrical Engineering Laboratory (2)
Prerequisite: Egr 309; corequisites: Egr 310 and 313. Experimental studies of discrete and integrated electronic circuits and electrical machines; bridge measurements of circuit parameters; slotted-line measurements; simulation studies using analog computers. (6 hours laboratory)

376A Mechanical Engineering Laboratory (2)
Prerequisites: Egr 302, 306B and 308. Experimental studies of dynamic systems, vibration, acoustics and other mechanical subjects; analog and computer simulation of dynamic systems; and automatic data acquisition. (6 hours laboratory)

376B Mechanical Engineering Laboratory (2)
Prerequisite: Egr 306B. A laboratory investigation of mass transfer, heat transfer, and thermodynamic phenomena and their interaction with mechanical systems. (6 hours laboratory)

377A Civil Engineering Laboratory (2)
Corequisite: Egr 324. Laboratory experiements to study the behavior and properties of soil, cement, concrete and bituminous materials. (6 hours laboratory)

377B Civil Engineering Laoratory (2)
Prerequisite: Egr 301. Experimental studies in structural mechanics, stress and deformation studies of concrete and steel structures. Dynamic response of structures. (6 hours laboratory)

380 Human Factors in Design (3)
Prerequisites: Physics 211A,B or 225B. Design of products and systems based on human engineering principles, study of human capabilities and limitation of senses, study of characteristics of human anatomy. Responses to sensory stimuli. (Offered every other year)

385 Electrical Engineering Design Projects Laboratory (3)
Prerequisite: Egr 375, within 20 units of graduation. The application of fundamental engineering principles to typical design problems in the field of electrical engineering. (1 hour lecture, 6 hours laboratory)

402 Digital Logic Design (3)
Prerequisite: Computer Sci 210 or consent of instructor. Introduction to digital computers, Boolean algebra, number representations. Analysis, simplification and synthesis of combinational and sequential networks.

402L Digital Logic Laboratory (2)
Corequisite: Egr 402. Experimental study of digital logic circuits; decoders and encoders, counters, serial and parallel adders, control circuits. (1 hour lecture, 3 hours laboratory)

403 Computer Methods in Numerical Analysis (3)
Prerequisites: Math 281 and Egr 205 or equivalent. The use of numerical methods and digital computers in the solution of algebraic, transcedental, simultaneous, ordinary and partial differential equations.

405 Digital Computer Design and Organization (3)
Prerequisite: Egr 402. Digital Computer organization; arithmetic operations: addition, subtraction, multiplication, division; control unit: instruction format, types, acquisition, execution; memory unit: organization, types, hierarchies; input-output unit: methods, data, organization.

405L Digital Computer Design Laboratory (3)
Prerequisites: Egr 303L, 402, 402L and 405. Design and implementation of a small digital computer; adders, arithmetic unit, control unit, memory control unit, memory unit and program unit. (1 hour lecture, 6 hours laboratory)

406 Dynamics and Control of Mechanical Systems (3)
Prerequisites: Egr 205, 302 and 308. Vibration analysis and vibration control, fundamentals of control-system analysis. (Offered every third semester)

407 Heat Transfer (3)
Prerequisites: Egr 205, 305 and Math 281. Analysis of two- and three-dimensional steady and unsteady heat conduction, heat exchangers, forced and free convection for interior and exterior surfaces with laminar and turbulent flow, heat transfer with a change in phase. (Offered every third semester)

408 Reinforced Concrete Design (3)
Corequisite: Egr 326 or equivalent. Theory of reinforced concrete. Design of reinforced concrete slabs, beams, columns, buildings and bridges. Introduction to prestressed concrete.

409 Introduction to Linear Systems (3)
Prerequisites: Egr 203, 302 and 308. Development of time and frequency domain models for physical systems. The linearization process and representation with block diagrams and signal flow graphs; introduction to discrete-time systems and digital signals including use of Z-transforms; introduction to stability theory of continuous and discrete time systems.

411 Dynamics of Structures (3)
Prerequisites: Egr 301, 302 and 308 or equivalent. Free and forced vibrations of discrete systems, response of structures to impulse loads and earthquakes. Matrix formulation and normal coordinates analysis. Vibration of beams.

412 Theory of Elasticity (3)
Prerequisites: Egr 301 and 491. The differential equations which govern the behavior of an elastic solid, and their applications to a variety of problems in two and three dimensions using various coodinate systems.

413 Electrical Power Transmission (3)
Prerequisite/corequisite: Egr 313. Transmission line parameters, current and voltage relationships, regulation, symmetrical components, system performance and faults.

415 Gas Dynamics (3)
Prerequisites: Egr 304 and 305. Thermodynamics of compressible fluid flow, normal and oblique shocks, flow through converging-diverging passages, flow in ducts with heating or cooling, interaction of shocks and expansion waves. Linearized 2-D flows, supersonic wind tunnel testing. (Offered every third semester)

416 Feedback Control Systems (3)
Prerequisite: Egr 409. Feedback control system characteristics; analysis and design of continuous-time systems using root-locus and Bode plots; introduction to stability and compensation of discrete-time and continuous-time systems.

417 Engineering Economy (2)
Prerequisite: senior standing in engineering. Development, evaluation and presentation of alternatives for engineering systems and projects using principles of engineering economy and cost benefit analysis.

418 Foundation Design (3)
Prerequisite: Egr 324; corequisite: Egr 408. Subsurface exploration. Design of footings, retaining walls, mat and piled foundations for structures.

420 Introduction to Digital Filtering (3)
Prerequisites: Egr 205 and 409. Sampling and quantization of continuous signals; discrete systems; recursive and nonrecursive filters; discrete and fast Fourier transforms.

421 Mechanical Design (3)
Prerequisites: Egr 301 and 335; corequisite: Egr 421L. The application of the principles learned in mechanics of rigid and deformable bodies to the proportioning of machine elements to engineering problems.

421L Mechanical Design Laboratory (1)
Corequisite: Egr 421. Analysis, formulation and solution of engineering type problems encountered in mechanical design. (3 hours laboratory)

423 Engineering Probability and Statistics (3)
Prerequisite: Math 250. Engineering problems involving discrete and continuous random variables, probability distribution and density functions, introduction to stochastic processes, correlation functions and power spectral densities.

424 Computer Simulation of Continuous Systems (3)
Prerequisites: Egr 205 and 409. Analog computer methods, digital differential analyzers, digital simulation languages, simulation of engineering systems.

425 Environmental Engineering (3) (Formerly 425A)
Corequisite: Egr 428. Fundamental principles underlying the traditional, current and anticipated practices in wastewater treatment and facilities design. Emphasis on design considerations utilized in the selection of physical, chemical, biological and/or advanced wastewater treatment technologies; governmental regulations regarding waste discharge; and sludge handling and disposal problems.

426 Ocean and Coastal Engineering (3)
Prerequisite: senior standing in engineering or equivalent. Fundamentals of ocean waves. Effect of waves on structures, floating platforms, offshore platforms, engineering problems of beach erosion, harbor design and other coastal problems. Application of fluid mechanics to develop first-order ocean engineering.

427 Structural Analysis (3)
Prerequisite: Egr 301. The analysis of determinate and indeterminate structures, such as continuous beams, frames, grids, arches, trusses, curved beams, using slope and deflection method, moment distribution method, elastic energy approach. Temperature effect, foundation settlement, secondary stresses. Nonprismatic members.

428 Engineering Hydraulics (3)
Prerequisite: Egr 305. Analysis of incompressible fluid flow in closed conduits and open channels. Topics include energy and hydraulic grade lines, friction formulas, pipeline systems, pumps, uniform and nonuniform flows, critical flow, flow in trapezoidal and circular channels, hydraulic models.

428L Engineering Hydraulics Laboratory (1)
Prerequisite: Egr 428. Laboratory experiments which illustrate the principles of engineering hydraulics. (3 hours laboratory)

429 Transportation and Traffic Engineering (3)
Prerequisite: senior standing in engineering or equivalent. Introduction to transportation systems. Engineering aspects of air, highways, rails, waterways and other modes of transportation. Planning, design and regulation of highway traffic. Elements of highway and freeway layout. Planning and design of rapid transit systems. Transportation facilities. Application of computers.

430 Design of Steel Structures (3)
Prerequisite: Egr 301; corequisite: Egr 326 or equivalent. Design of steel structures: design of built-up girders, moment connections, light gage metal members. Torsion and unsymmetrical bending of beams, buckling of beams and columns. Design for wind and earthquake forces. The use of the latest AISC design code.

434 Energy Conversion and Power (3)
Prerequisites: Egr 203, 304 and 305. The direct conversion of heat to electrical energy, thermoelectric, thermionic and magnetohydrodynamic devices, solar and fuel cells and exotic techniques. (Offered every third semester)

435 Design of Water Systems (3)
Prerequisite: Egr 428 or equivalent. Hydraulic design of dams, water distribution networks and storm drain systems. Topics include forces on dams, outlet works, spillways, flood control, pipeline networks, equivalent pipes, Hardy Cross method, computer methods, storm drain hydrology, junction analysis, catch basins, inlets.

436 Engineering Hydrology (3)
Prerequisite: junior standing in engineering or consent of instructor. A study of the hydrologic cycle with applications to the hydrologic design of engineering structures. Topics include rainfall, runoff, urban hydrology, statistical hydrology.

442 Electronic Circuits (3)
Prerequisites: Egr 309 and 310. Continuation of Egr 310. Power amplifiers and tuned ampifiers; RF amplifiers; modulation and detection circuits; oscillators; and operational amplifier applications.

443 Electronic Communication Systems (3)
Prerequisite: Egr 310 and 423. Principles of amplitude, angular and pulse modulation, study of representative communication systems, consideration of the effects of noise on system performance.

445 Pulse and Digital Circuits (3)
Prerequisites: Egr 303 and 308. Analysis and design of active and passive circuits for the generation and processing of pulse, digital and switching waveforms.

445L Pulse and Digital Circuits Laboratory (2)
Prerequisite: Egr 445 (may be taken concurrently). Laboratory study of logic circuits, switching circuits, gates, timing circuits and special waveform generating circuits. (1 hour lecture, 3 hours laboratory)

447 Piping Selection and Piping Network Design (3)
Prerequisites: knowledge of fluid mechanics and strength of materials; consent of instructor. Pressure losses in piping networks; selection of piping based upon fluid, temperature, pressure and economic considerations; piping connections, fittings and components; stress analysis; review of national piping codes.

448 Digital Systems Design (3)
Prerequisites: Egr 402, 402L, 303 and 303L. Practical aspect of digital system design. MSI and LSI chips; ROM, PROM and RAM memories; noise, loading and termination problems; logic design documentation, design of computer interface, servo controller or data logger system.

449 Internal Combustion Engines (3)
Prerequisites: Egr 304, 305. Thermodynamics of cycles for internal combustion engines, including fuels and combustion. Performance characteristics of various types of IC engines. Including the following engines: Clerk (two-stroke), Otto, Wankel, diesel and gas turbine. Exhaust analysis and pollution control.

450 Power Plant Engineering (3)
Prerequisites: Egr 205, 304, 305. Engineering principles and design methods applicable to modern electrical power generation facilities. Coverage of economics, heat transfer, steam generation, fuels and combustion, and equipment. Steam, gas, turbine, diesel, nuclear and hydroelectric plants are considered. (Offered every third semester)

451 Thermal Environmental Conditioning and Control (3)
Prerequisites: Egr 304 and 305. A rigorous and thorough approach to the fundamentals of controlling the thermal environment within enclosed spaces. Theory and analysis of fundamental thermodynamics are emphasized providing a broad coverage of topics relating to thermal environmental engineering. Laboratory demonstrations of actual systems. (Offered every third semester)

452 Fluid Machinery (3)
Prerequisites: Egr 304, 305. The study of the thermodynamics and fluid mechanics of flow through pumps, fans, turbines and compressors. Component selection and system performance evaluations are emphasized.

455 Solid State Electronics (3)
Prerequisites: Egr 303 and 311. Quantum mechanical principles, atomic structure, crystal structure, crystal defect and diffusion, lattice vibration and phonons, energy band theory, charge transport phenomena, free electron theory of metal, intrinsic and extrinsic semiconductors, p-n junction theory, transistor theory.

455L Solid State Electronics Laboratory (2)
Corequisite: Egr 455. Experimental study of semiconductor properties: resistivity, diffusion current,

Hall effect, and band gap measurement. Study of modern solid state technologies for integrated circuits: diffusion, oxidation, photolithography and thin film processes. (1 hour lecture, 3 hours laboratory)

459 Plastics and Other Non-Metallics (3)

Prerequisite: Egr 202. Simplified chemistry of plastics. Applications. Manufacturing processes. Methods for preventing deterioration of nonmetallic materials. Composites. Ceramics. Refractories. Wood. Water. Destructive and nondestructive testing of nonmetallic materials.

460 Failure of Engineering Materials (3)

Prerequisite: Egr 202. Imperfections in solids; fracture initiation and crack propagation; dislocations; yield point phenomenon; fatigue; creep; ultrasonic effects; radiation damage; stress corrosion; hydrogen embrittlement; composite materials. (Offered every third semester)

461 Fabrication Methods (3)

Prerequisite: Egr 202. Introduction to manufacturing processes. Metal joining processes. Casting, forging, powder metallurgy, machining and machining tools, finishing, coating, plating, nonmetallic materials inspection and gaging, tolerances.

468 Engineering Construction (3)

Prerequisite: senior standing in civil engineering. Engineering construction planning, equipment and methods. Construction management. Introduction to critical path method. Construction of buildings, bridges, highways, foundations and dams.

471 Technical Seminar in Engineering (1)

Prerequisite: senior standing in engineering. Recent developments in engineering. Oral and written reports.

472 Solar Energy and Engineering Applications (3)

Prerequisites: Egr 304 and 305. Solar collectors, space heating and cooling, power production and energy storage; review of basic economic principles; quantification of technical and economic performance of engineering solar systems; Mathematical analysis of system performance.

473 Introduction to Nuclear Engineering (3)

Prerequisite: senior or graduate standing in engineering. A review of atomic physics and nuclear fission followed by elementary reactor theory and reactor design consideration. (Offered every third semester)

475 Engineering Acoustics (3)

Prerequisite: Physics 225C. Basic phenomena on the propagation, absorption and generation of acoustic waves, specification and measurement of noise, effects of noise on speech and behavior, legal aspects of industrial and building noise, principles and applications of noise control. (Offered every other year)

489 Introduction to Microwave Engineering (3)

Prerequisite: Egr 311. Propagation of electromagnetic waves; Guided transmission lines, waveguides and resonators; impedance matching; passive microwave components; antennas and radiation.

490 Professional Practice (1)

Prerequisites: upper division standing in engineering program and consent of instructor. Professional engineering work in industry or government chosen to give the student an in-depth experience in engineering. A written report is required. May be repeated for credit, for a maximum of eight units. However, no more than three units is applicable towards a B.S. in Engineering. Not for credit in the graduate program.

491 Analytical Methods in Engineering (3)

Prerequisite: Egr 308 or consent of instructor. Differential equations with constant and variable coefficients; orthogonal functions; conformal mapping; potential theory; engineering applications.

497 Senior Projects (1–3)

Prerequisite: consent of adviser and instructor. Directed independent design project.

499 Independent Study (1–3)

Prerequisite: approval of study plan by adviser. Study of specialized topics in engineering selected in consultation with the instructor and carried out under his supervision. May be repeated for credit.

500 Nuclear Reactor Design (3)

Prerequisite: Egr 473 or consent of instructor. The study of nuclear reactor design and analysis including neutron flux, multivelocity reactors, reflected reactors, control-rod theory, breeder reactors, gas and water cooled reactors and sodium reactors.

501A,B Microwaves (3,3)
Prerequisites: Egr 403 and 502. Review of concepts underlying Maxwell's equations, propagation through passive, active, linear, nonlinear, isotropic, anisotropic, homogeneous and inhomogeneous media with and without wave guiding structures. Orthagonal modes in waveguide and cavity resonators, microwave circuit theory, microwave devices. Generation and transmission of microwave energy.

502 Electromagnetics (3)
Prerequisites: Egr 311, 403 and 489. Electric and magnetic fields produced by and forces exerted on charge, current, dielectric, magnetic and conducting material distributions. Reduction of field theory to circuit theory; capacitance, resistance and inductance. Formulation in terms of vector and tensor notation, solution via analytic and numerical methods.

503 Information Theory and Coding (3)
Prerequsite: Egr 423. Information measures, probabilistic studies of the transmission and encoding of information, Shannon's fundamental theorems, coding for noisy channels.

504A Linear Network Synthesis (3) (Formerly 504)
Prerequisites: Egr 310. Synthesis of passive element driving-point and transfer-functions with emphasis on RC networks. Basic operational amplifier RC circuits and their performance limitations, introduction to second-order RC active filters. Parameter sensitivity analysis.

504B Linear Active Networks (3) (Formerly 559)
Prerequisite: Egr 504A. Cascade realizations of RC active filters utilizing low-gain and infinite-gain amplifiers; state-variable filter realizations of high-Q filters; gyrators and generalized impedance converters. RC filters using active feedfoward and feedback circuits.

505 Control System Design (3)
Prerequisite: Egr 416. Design of compensators for continuous-time and discrete-time systems; introduction to nonlinear control systems; phase-plane analysis; applications of Lyapunov stability theory to design.

506. Advanced Digital Computer Systems (3)
Prerequisite: Egr 405. Computer system structure, mini-computers, medium and large-scale computer systems, micro-progamming, micro- and mini-computers, time-sharing and multi-processor computer systems.

507 Statistical Communication Theory (3)
Prerequisites: Egr 423 and 443. Transmission of random signals through linear systems, noise considerations, detection theory, optimum receivers.

508 Advanced Inviscid Fluid Flow (3)
Prerequisites: Egr 205, 308 and 333. Study of two- and three-dimensional potential flow theory. Sources, sinks, vortices, rankine bodies, free jets, channel flow, air foils, etc. Complex potential and various transformation techniques are used. (Offered every other year)

509 Theory of Plates and Shells (3)
Prerequisites: Egr 301 and 491 or equivalent. Theory of plates bent by transverse loads; applications to circular, retangular, other shapes. General theory of thin shells; shells of revolution; shells of translation.

510 The Finite Element Method (3)
Prerequisites: Egr 403, 412 and 533. Finite elements of a continuum. Stress analysis of: plane stress and plane strain problems; axi-symmetric bodies; and plates and shells. Conforming and nonconforming shape functions. Problems of vibration and stability. Applications using the digital computer.

511 Advanced Mechanical Vibrations (3)
Prerequisites: Egr 406 or equivalent. Vibrations in rotating and reciprocating machines; noise and vibration in fluid machinery; continuous systems; random vibrations; transient and nonlinear vibration, computer applications. (Offered every 2½ years)

512 Advanced Mechanical Design (3)
Prerequisite: Egr 421. Advanced mechanisms. Analysis synthesis of mechanisms. Computer aided design of mechanical, thermal and fluid systems. Optimization in design.

513 Optimal Control systems (3)
Prerequisite: Egr 581. Formulation of optimal control problems; the calculus of variations; the maximum principle; studies of minimum-time and minimum-energy problems; dynamic programming.

516 Advanced Radiation Heat Transfer (3)
A study of advanced principles in radiation heat transfer including the study of the geometric factor, black and real systems, and energy transfer in absorbing, scattering and emitting media, and radiation combined with other modes of energy transfer. (Offered every other year)

520 Advanced Viscous Fluid Flow (3)
Prerequisites: Egr 333 or equivalent. Study of the fundamental equations of viscous fluid flow. Viscous drag estimation. Drag reduction methods. (Offered every other year)

521 Antenna Theory (3)
Prerequisites: Egr 403 and 502. Polarization; radiation patterns; impedance characteristics; plane, cylindrical and spherical waves, electric and magnetic dipoles; wire antennas, traveling wave antennas; broad band antennas; analysis and synthesis of arrays; parabolas; lenses; radomes; feed systems; scattering; multiple beam antennas; synthetic antennas; phased arrays; diffraction; solution by superposition, orthogonal expansion, integral equation and variational techniques; antenna measurements.

522 Design of Fluid Film Bearings (3)
Prerequisites: Egr 333 and 407 or consent of instructor. Methods of estimation of pressure, friction, leakage losses and load carrying capacity of fluid film bearings. (Offered every other year.)

523A Solid State Devices and Integrated Circuits (3)
Prerequisite: Egr 455. Solid state fabrication technologies: diffusion, epitaxy, metallization, photolithography. Solid state device design principles; diodes, transistors, FETS, linear integrated circuits, digital integrated circuits.

523B Large Scale Integrated Circuits (3)
Prerequisite: Egr 402 and 523A. Design and analysis of large scale integrated circuits. p- and n-channel MOS circuits; complementary MOS circuits; static and dynamic circuits; integrated injection logic circuits; shift register design; read-only memory and ransom access memory design; computer-aided and other logic circuit design.

524 Advanced Thermodynamics (3)
Prerequisite: Egr 316 or consent of instructor. Combined classical and statistical thermodynamics. Equilibrium and stability criteria, chemical thermodynamics, multiple reaction systems, ionization, equilibrium composition. Ideal gases, ideal solids, kinetic theory of transport processes. (Offered every other year)

525 Unsteady Hydraulics (3)
Prerequisite: Egr 428 or equivalent. Principles of unsteady flow in open channels and closed conduits. Shallow water wave theory, method of characteristics, flood waves, flood routing, numerical methods, tidal hydraulics, roll waves, waterhammer.

526 Advanced Convective Heat Transfer (3)
Prerequisite: Egr 407. A study of advanced principles in convective heat transfer including the study of heat transfer in external and internal flow fields for both laminar and turbulent fluid flow. (Offered every other year)

527 Fault Diagnosis and Finite Automata (3)
Prerequisite: Egr 402. Advanced logic design, threshold and quadded logic, asynchronous circuits, pulse and fundamental modes, sequential machines, fault detection and diagnosis of digital systems, and finite state recognizers.

529 Open Channel Hydraulics (3)
Prerequisite: Egr 428 or equivalent. Steady flow in open channels and rivers, critical flow, water surface profiles, controls and transitions. Computer applications.

530 Advanced Strength of Materials (3)
Prerequsite: Egr 421 or consent of instructor. Energy methods. Castigliano's Therorem: curved beams, beams on elastic supports, thickwalled cylinders, shrink fits, localized stress, column instability, failure theories, three-dimensional Mohr's circle. (Offered every third semester)

531 Phase-Locked and Frequency Feedback Systems (3)
Prerequisite: Egr 507 or consent of instructor. Review of the theory of noise and linear systems, FM feedback principles. Theory and design of phase-locked loops and their applications in communication and control.

532 Earthquake Engineering (3)
Prerequisite: Egr 411 or equivalent. Characteristics of earthquake motions; spectral analysis of ground motions; structural response of linear systems; computational methods; behavior of materials and structural components due to earthquake loading; basic concepts of earthquake-resistant design; soil-structure interaction; evaluation of current earthquake codes.

533 Matrix Analysis of Structures (3)
Prerequisites: Egr 427 and 205 or equivalent. Matrix formulation of structural analysis; flexibility and stiffness methods; direct stiffness approach; applications using the digital computer; introduction to the finite element method.

534 Surface Water Hydrology (3)
Prerequisites: Egr 423 and 436. Modern methods of analysis and design utilized in surface water hydrology. Deterministic and stochastic approaches. Topics include hydro meteorology, infiltration theory, overland flow, unitgraphs, S-curves, synthetic unitgraphs, channel routing, standard project flood, statistical analysis of hydrologic data, frequency distributions, extreme-value theory, probable maximum flood.

536 Advanced Conduction Heat Transfer (3)
Prerequisite: Egr 407. A study of advanced principles in conduction heat transfer including the study of Bessel and Legendre functions, Fourier series solutions, heat sources and sinks, multidimensional problems, transient systems and numerical methods (finite difference and finite element methods). (Offered every other year)

537 Groundwater and Seepage (3)
Prerequisite: Egr 436. Equations governing flow of liquids in porous media with applications to groundwater hydrology and seepage. Seepage through dams and under structures, flow in confined and unconfined aquifers, steady and unsteady flow, well fields, flow nets, computer solutions, sea water intrusion, recharge, groundwater pollution.

539 Advanced Coastal Engineering (2)
Prerequisite: Egr 426. The development of higher-order theories in ocean waves and their application to current coastal engineering problems. Analysis of current developments in coastal engineering.

540 Computer Applications in Engineering Design (3)
Prerequisite: Egr 403. Digital and analog computers in engineering design. Design methodology, model development, model use for parametric analysis, design optimization, performance prediction; use of existing generalized programs and simulation languages is emphasized. (Offered every other year)

544A Advanced Foundation Engineering (3)
Prerequisites: Egr 324 and 418. Beam on elastic foundations. Raft foundations. Retaining walls. Pile groups and pier foundations. Soil structure interaction. Foundations on expansive soils.

544B Advanced Foundation Engineering (3)
Prerequisite: Egr 418. Foundation dewatering. Deep excavations. Bulkheads and cofferdams. Buried structures. Underpinning.

546 Advanced Soil Mechanics and Foundation Engineering (3)
Prerequisite: Egr 324 and graduate standing. Advanced theories of soil mechanics, including consolidation, lateral pressures and bearing capacity. Advanced studies in shear strength of cohesive and cohesionless soils, including methods of testing. Applications to slope stability, earth dam engineering and foundation engineering.

548 Soil Dynamics and Foundation Engineering (3)
Prerequisites: Egr 324 and 418. Wave propagation in soils. Dynamic behavior of soils. Blast effects. Analysis and design of dynamically loaded foundations. Earthquake design of dams and foundations of structures.

549 Theory of Elastic Stability (3)
Prerequisites: Egr 509 and 491 or equivalent. Critical loads of columns, beam columns, plates, shells; lateral stability of beams, torsional buckling of open sections, stability of the frames; dynamic stability of elastic systems.

550A,B Plasma Dynamics (3,3)
Prerequisites: Egr 403 and 502. Orbit theory, collision theory, transport properties, equilibrium, oscillations, fluctuations, thermionic energy conversion, plasma containment, instabilities, fusion power, plasma propulsion, hypersonics, plasma sheaths and wakes, scattering from plasmas, wave propagation through plasmas.

551 Modern Network Theory (3)
Prerequisites: Egr 309 and 403 or equivalent. Network topology. Algorithms for the generation of trees, tie sets and cut sets. Modeling. Element representation by uncoupled and coupled branches. Pertinent matrix theory and programming techniques. Automatic analysis programs for linear and nonlinear electrical systems. Sample applications.

552 Heavy Construction Engineering—Theory and Practice (3)
Prerequisites: Egr 324, 408, 418, and 468. Principles of design and methods of construction of earth dams, pavements, deep foundations of high rise buildings, bridges and subways. Guest lectures.

555 Electromagnetic Field Theory (3)
Prerequisites: Egr 491 and 502. Relativistic electrodynamic, retarded potentials, radiation from arbitarily moving charges, Cerenkov radiation, cyclotron radiation, propagation in dispersive media, space charge dynamics, advanced boundary value problems.

558 Microprocessors and System Applications (3)
Prerequisites: Egr 405 and 458. Survey of microprocessors and microcomputers, their related software systems, system design with microprocessors, applications in peripheral controllers, communication devices and multiprocessing systems.

560 Fluid-Solid Interactions (3)
Prerequisites: Egr 301 and 333. Basic elements of aeroelastic, hydroelastic and thermoelastic problems. Wind effect on structures. Fluid induced instabilities. Sloshing. Elastohydrodynamic lubrication.

570 Seminar in Electrical Engineering (1–3)
Prerequisites: graduate standing and 12 units of graduate coursework. Special topics and current developments of primary interest in the field of electrical engineering. With different content, may be retaken for additional credit.

572 Seminar: Topics in Control Theory (3)
Prerequisites: Egr 581 and consent of instructor. Offered once each year with course content varied from year to year. Topics such as the following will be included (each a one semester course): system identification, numerical methods for optimal control computations, nonlinear system theory, and advanced digital control. May be repeated for credit with consent of instructor.

574 Seminar: Topics in Hydraulics (3)
Prerequisite: consent of instructor. Special topics and current developments in the field of hydraulics. May include mechanics of jets and plumes with applications to sewage and thermal outfalls, stratified flow, sedimentation, systems analysis of water systems, numerical hydraulics. With different content, may be repeated.

576 Advanced Dynamics and Control of Mechanical Systems (3)
Prerequisite: Egr 406. Continuation of Egr 406. Feedback control in mechanical, hydraulic and pneumatic systems; case studies in compensation and design. (Offered every two and one-half years)

581 Theory of Linear Systems (3)
Prerequisites: Egr 403 and 416. Principles of state space analysis, linear spaces, stability of systems; numerical methods of linear systems analysis and design.

582 Linear Estimation Theory (3)
Prerequisites: Egr 423 and 581. Mathematical models of continuous-time and discrete-time stochastic processes; the Kalman filter, smoothing and suboptimal filtering computational studies.

585 Optimization Techniques in Systems Engineering (3)
Prerequisite: Egr 403. Calculus of variations, optimization of functions of several variables, Lagrange multipliers, gradient techniques, linear programming, and the simplex method, nonlinear and dynamic programming.

587 Operational Analysis Techniques in Systems Engineering (3)
Prerequisites: Egr 423 and 585. Operational research models; applications of probability theory to realiability, quality control, waiting line theory, Markov chains; Monte Carlo methods.

592 Advanced Engineering Analysis (3)
Prerequisites: Egr 403 and 491 or equivalent. Partial differential equations in engineering; numerical techniques; integral equations; engineering applications.

597 Project (1–6)
Prerequisite: consent of adviser.

598 Thesis (1–6)
Prerequisite: consent of adviser.

599 Independent Graduate Research (1–3)
Prerequisite: classified graduate status. Open to graduate students only by consent of Engineering Division Graduate Committee. May be repeated for credit only upon approval of this committee.

POST-BACCALAUREATE COURSE

303 Review of Applied Mathematics for Engineers (3)
Review of elementary calculus, ordinary differential equations, Laplace transforms, vector analysis, Fourier series, matrices, and partial differential equations.

ENVIRONMENTAL STUDIES PROGRAM

FACULTY
Prem Saint
Program Coordinator

ENVIRONMENTAL STUDIES COUNCIL
Dennis Berg (Sociology), Harvey Blend (Physics), Richard Brock (Engineering), Fenton Calhoun (Communications), Peter Eilers (Geography), Roger Joseph (Anthropology), Peggy Kozlowski (Student), Glenn Lemon (Student), Al Liston (Political Science), Stewart Long (Economics), Merrill Ring (Philosophy), Barry Thomas (Science Education), Joel Weintraub (Biology), Van Willis (Chemistry), Robert Young (Geography).

Environmental studies is an interdisciplinary program of courses dealing with man and his interactions with his environments—cultural as well as natural. The courses, both pre-existing in various departments and specially developed, attempt to integrate knowledge and methods from several disciplines, all of which independently study special aspects of this area. The program will deal with man and his social and cultural aspect, as he exploits, modifies and attempts to achieve balance with his environment. The student will have the opportunity to take courses dealing with problems involving ecological changes, pollution, techological solutions, economics, balanced land use, and politics.

The program is intended to provide the widest possible variety of students with an opportunity to become acquainted with and acquire a common vocabulary in this vital area.

A Master of Science in Environmental Studies is offered. The student may elect emphases in environmental sciences, rural and urban studies, technological studies and environmental education.

ENVIRONMENTAL SCIENCES (Joel Weintraub—Area Adviser)
Subject material in the area includes aspects of human ecology, ecology, water resources and quality, air resources and quality, environmental health, oceanography and environmental geology. Students in this area should have a background in biology, chemistry, earth science, engineering or physics.

RURAL AND URBAN STUDIES (Robert Young—Area Adviser)
This area deals with the relationship of man and his natural, economic and cultural environment to land use and planning. Subject material includes aspects of regional and urban planning, land use analysis and environmental law. Students in this area may have a background of work in natural or social sciences.

TECHNOLOGICAL STUDIES (Merrill Ring—Area Adviser)
Technological Studies is devoted to fostering activities that explore the relationship and interaction between science, technology and society. Subject material includes aspects of energy resource alternatives, population growth, oral history and sociological surveys. Students in this area may have a background in physical and social sciences and the humanities.

ENVIRONMENTAL EDUCATION (Barry Thomas—Area Adviser)
The emphasis is based on the need to provide a background in nature interpretation that will enable the student to pursue a career as a park naturalist, environmental consultant for city, school and public organizations and as a teacher specialist in environmental education and ecology. Students may enter with preparation in natural science, education or communications.

MASTER OF SCIENCE IN ENVIRONMENTAL STUDIES
Admission to Graduate Standing: Conditionally Classified
An applicant must meet the university requirements for admission in conditionally classified graduate standing: a baccalaureate degree from a accredited institution and a grade-point average of at least 2.5 in the last 60 semester units attempted. In addition, three letters of recommendation are required.

If the student has no background in ecology, regional planning or quantitative techniques, the student should make up the deficit by taking approved courses offered in the other appropriate departments in consultation with an adviser.

Admission to Graduate Standing: Classified

A student who meets the requirements for conditionally classified graduate standing, as well as the following requirements, may be admitted as a classified graduate upon the development of an approved study plan:

1. An overall GPA of at least 3.0 for the last 60 units. If the student has a grade deficiency, he will be eligible for classification if he achieves a GPA of 3.0 in nine units of adviser-approved coursework.
2. Completion of no more than nine semester units of adviser-approved coursework.

Study Plan

The M.S. in Environmental Studies requires a minimum of 36 units of adviser-approved coursework with a GPA of 3.0 or better. The student's committee should be comprised of three members, representing three different departments, with one being a member of the Environmental Studies Council.

I. Interdisciplinary Core, Environmental Studies (15 units)
   - 440 Principles of Environmental Studies (3)*
   - 510 Environmental Evaluation and Protection (3)
   - 520 Environmental Analysis: Social Science Perspective (3)
   - 595 Seminar in Environmental Studies (3)
   - 596 Internship (3) *or*
   - 597 Project (3)

II. Thesis 598 (3 units)
   Every student will either develop a research project (3) or participate in an internship (3) at a government or private agency. A thesis (3) is required and may be based on the results of project or internship experiences.

   A student who has the background necessary may substitute a core course, with another suitable course offered in the program or other department, with the consent of the area adviser or program coordinator.

III. Individualized Coursework (18 units)
   Graduate level courses in the field of the undergraduate major or appropriate discipline (6) and additional courses outside of the individual's major (12) will be chosen in consultation with faculty adviser and in accordance with the professional objectives of the student.
   Upon completion of 12 units on the study plan with a GPA of 3.0 (including Environmental Studies 440 and one approved 500-level course with minimum grades of B), the student should request advancement to candidacy in the university graduate office.

   See also "The Program of Master's Degrees" in this catalog and the *Graduate Bulletin.*

ENVIRONMENTAL STUDIES COURSES

440 Principles of Environmental Studies (3)

Prerequisite: graduate standing in environmental studies or consent of instructor. The principles and current problems involving man and his environment, and research methodologies of the emphases. Seminars, possible field trips and simulations.

510 Environmental Evaluation and Protection (3) (Formerly 502)

Prerequisite: Environmental Studies 440 and environmental studies major or consent of instructor. A survey of environmental parameters (water, air, solid wastes, noise, radiation, etc.) with techniques in monitoring and measurement; their effect on human health: environmental quality standards and controls. Demonstrations and field trips.

520 Environmental Analysis: Social Science Perspective (3) (Formerly 501)

Prerequisites: Environmental Studies 440 and environmental studies major or consent of instructor. The role of culture, economic development and technology in the evolution of environmental patterns. The significance of increasing urbanization within a geographic and historic framework.

595 Seminar in Environmental Studies (3)

Prerequisite: classified status in environmental studies program or consent of instructor. An interdisciplinary seminar dealing with environmental impact assessment and other legal and institutional issues.

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* May be waived on approval of adviser and program coordinator.

596 Internship in Environmental Studies (3)
Prerequisite: major in environmental studies program. Practical field experience with a governmental or private agency. Seminars and professional experience.

597 Project (3)
Prerequisite: major in environmental studies program and consent of instructor with whom the student wishes to pursue independent project.

598 Thesis (3)
Prerequisites: classified status in environmental studies program and consent of instructor. Planning, preparation and completion of an acceptable, interdisciplinary thesis. Credit obtained only on formal submission of thesis.

GEOLOGY

(See Department of Earth Science)

MARINE SCIENCES

(Offered by the Department of Biological Science and the Department of Earth Science) See departmental course descriptions for the following courses:

Biological Science
- **319 Marine Organisms and Their Environment (3)**
- **319L Marine Organisms and Their Environment Lab (1)**
- **419 Marine Ecology (3)**
- **419L Marine Ecology Lab (1)**
- **420 Biology of Marine Plankton (4)**
- **421 Biology of Marine Nekton (4)**
- **446 Phycology (4)**
- **461 Invertebrate Zoology (4)**
- **475 Ichthyology (4)**
- **518 Seminar in Marine Science (3)**

Earth Science
- **333 Oceanography (3)**
- **431 Physical Oceanography (3)**
- **432 Marine Geology (3)**

DEPARTMENT OF MATHEMATICS

FACULTY
Harris Shultz
Acting Department Chair
Russell Benson, Edwin Buchman, Joseph Bucuzzo, Gloria Castellanos, Michael Clapp, Robert Curry, Paul DeLand, Russell Egbert, James Friel, Gerald Gannon, Robert Gauntt, Richard Gilbert, Vuryl Klassen, Vyron Klassen, William Leonard, Gerald Marley, John Mathews, Ronald Miller, David Pagni, John Pierce, Rollin Sandberg, Ray Shiflett, Edsel Stiel, Yun-Cheng Zee

BACHELOR OF ARTS IN MATHEMATICS

The Department of Mathematics offers an undergraduate program in mathematics and options in applied mathematics, probability and statistics, and for prospective elementary or secondary teachers. Courses are provided to satisfy the needs of:

1. The student planning graduate study in mathematics;
2. The student planning to use mathematics in a career in business, industry or government;
3. The student planning to teach at the elementary or secondary level;
4. The student majoring in a discipline using mathematics as a descriptive or analytic tool.

The major program is designed to give sufficient breadth and depth in the study of mathematics to prepare students for subsequent graduate study in mathematics or related areas. The applied and probability and statistics options provide the mathematics needed for certain careers in industry and government. For students interested in teaching in elementary or secondary schools, the teaching option may be combined with programs leading to a teaching credential to meet both university degree requirements and California credential laws.

In addition to the units in mathematics required in each program, all students seeking a B.A. in Mathematics must complete Engineering 205, Digital Computation. Each course required for the major, including Engineering 205, must be completed with a grade of C or better. Courses required for the major must be taken under grading option 1 and are not subject to challenge examinations.

Mathematics majors should take the lower division mathematics courses (150A,B, 250, 281 or 291) during the first two years. Furthermore, advanced calculus (350A) should be completed before the senior year.

Mathematics courses may be used to satisfy general education in the category of basic subjects.

Major Program in Mathematics

Required courses:	*Units*
Math 150A,B Analytic Geometry and Calculus	8
Math 250 Intermediate Calculus	4
Math 291 Linear Algebra	3
Math 300 Introduction to Mathematical Methods	3
Math 302 Modern Algebra	3
Math 350A,B Advanced Calculus	6
Math electives *	15
	42

Option in Applied Mathematics

Required Courses	*Units*
Math 150A,B Analytic Geometry and Calculus	8
Math 250 Intermediate Calculus	4
Math 281 Linear Algebra with Diff. Eqns. *or* Math 291 Linear Algebra	3
Math 306 Vector and Tensor Analysis	3
Math 308 Introduction to Applied Mathematics	3
Math 310 Ordinary Differential Equations	3
Math 350A Advanced Calculus	3
Math electives †	12
Math/Quantitative Methods elective ‡	3
	42

Option in Probability and Statistics

Required Courses	*Units*
Math 150A,B Analytic Geometry and Calculus	8
Math 230 Elem. Probability and Statistics with Calculus	3
Math 250 Intermediate Calculus	4
Math 291 Linear Algebra	3
Math 335 Mathematical Probability	3
Math 350A Advanced Calculus	3
Math 435 Mathematical Statistics	3
QM 422 Survey Sampling and Design or QM 467 Statistical Quality Control	3
QM 475 Multivariate Analysis	3
Applied Statistics elective**	3
Math/Quantitatives Methods electives††	6
	42

Option in Mathematics for Teacher Education for Elementary or Secondary Education

Required courses:	*Units*
Math 150A,B Analytic Geometry and Calculus	8

* The major program must include at least two 400-level courses other than Math 496 and 499. All electives must be upper division, chosen from courses other than Math 303A,B, 311, 312, 321, 322, 380. In addition at least one course must be in applied mathematics, chosen from among Math 306, 308, 310, 335, 340, 370, 430, 431, 435, 438, 440.

† These elective courses must be chosen from among Math 335, 340, 350B, 370, 412, 430, 431, 435, 438, 440, 482, and at least two must be 400 level.

‡ This elective may be any upper division mathematics course (except Math 303A,B, 311, 312, 321, 322, 380, 496, 499) not used to fulfill other requirements. It may also be one of Quantitative Methods 465, 466, 467, 469, 475, 490.

** This elective must be chosen from among QM 422, 430, 467, 468, 469.

†† These elective courses must be chosen from among Math 340, 370, 438 and QM 363, 422, 430, 467, 468, 469.

Math 250 Intermediate Calculus	4
Math 291 Linear Algebra	3
Math 300 Introduction to Mathematical Methods	3
Math 302 Modern Algebra	3
Math 315 Euclidian Geometry *or* Math 320 Projective Geometry	3
Math 330 Number Theory *or* Math 335 Probability	3
Math 350A Advanced Calculus	3
Math 321 Problem Solving: Algebra	3
Math 322 Problem Solving: Geometry	3
Math Ed 442 * Teaching Mathematics in Secondary School	3
	39

Minor Program in Mathematics

A mathematics minor shall consist of 20 units of coursework selected from the courses offered by the Department of Mathematics. The courses must include Mathematics 281 or 291 and at least six upper division units from the Mathematics Department, chosen from courses other than Math 303A,B, 311, 312, 321, 322, 380. Each course must be completed with a grade of C or better.

Minor Program in Mathematics for Teacher Education

A. For elementary education the minor shall consist of 20 units of coursework selected from the courses offered by the Department of Mathematics. The courses must include Mathematics 150B or 230, and Mathematics 303A,B.

B. For secondary education the minor shall consist of 20 units of coursework selected from the courses offered by the Department of Mathematics. The courses must include Mathematics 281 or 291, and six units of upper division courses in mathematics.

REQUIRED COURSEWORK FOR TEACHING CREDENTIALS

Candidates for secondary school credentials must complete the following courses: Math 321 and 322 and Math Ed 442 and 449A,B.

MASTER OF ARTS IN MATHEMATICS

The M.A. in Mathematics is designed to provide advanced study for students interested in continuing studies for a Ph.D. in mathematics, high school and community college teaching or mathematical analysis in industry.

Prerequisites

An applicant must meet the university requirements for admission in conditionally classified graduate standing: a baccalaureate degree from an accredited institution and a grade-point average of at least 2.5 in the last 60 semester units attempted (see section of this catalog on admission of graduates for complete statement and procedures). In addition, students must have an undergraduate major in mathematics or a combination of previous coursework and work experience approved as equivalent by the graduate committee of the Mathematics Department.

A student who meets the requirements for conditionally classified graduate standing, and who has a grade-point average of 3.0 in upper-division mathematics courses, may be admitted as a classified graduate upon the development of an approved study plan. Students with subject or grade deficiencies who have been admitted to conditionally classified standing must complete all courses required by the graduate committee with at least a 3.0 average before they will be classified. In addition, students in the secondary schools option should have completed a minimum of one year of full-time teaching in junior high or senior high mathematics.

Study Plan (for all except students in secondary option)

The degree program requires 30 units of graduate study approved by the graduate committee. Sixteen of these units must be 500-level mathematics courses. Each student will be required to take electives to insure competence in algebra, analysis, topology and geometry. Nine units (which may be taken in the Mathematics Department) will be required outside the student's specialization.

Study Plan for Option in Mathematics for Secondary Schools

This option, designed for high school mathematics teachers, requires 30 units of graduate study

* Enrollment in Math Ed 442 is contingent upon being admitted to the secondary teacher education program; concurrent enrollment in six units of education courses is also required. Prospective elementary credential candidates must take coursework analogous to Math Ed 442 offered by the School of Education.

approved by the graduate committee. Sixteen of these units must be 500-level mathematics courses. The following coursework must be included: Math 581, 582, and 583, 580 or 584 and four units of 599. Each student will be required to take electives to insure competence in algebra, geometry and analysis.

Before the department will recommend the awarding of the degree in either the regular program or the option, each student must pass a set of comprehensive examinations (written and/or oral) designed to test competence in appropriate course materials.

For more detailed information or advisement, students should communicate with the chair of the Department of Mathematics.

See also "The Program of Master's Degrees" in this catalog and the *Graduate Bulletin.*

MATHEMATICS COURSES *

100 Precalculus Mathematics (4)
Prerequisite: the equivalent of three years of high school mathematics. Designed specifically for students who plan on taking calculus but whose backgrounds lack the necessary preparation. Topics include polynomial, rational, exponential, logarithmic and trigonometric functions.

100A-I Precalculus Mathematics (1–4)
Topics in mathematics below the calculus level. A maximum of four units credit may be earned.

110 Mathematics for Liberal Arts Students (3)
Prerequisites: two years of high school mathematics, including one year of algebra and one year of geometry. Selected topics in algebra, number theory, geometry, set theory, probability and analysis with special emphasis on the ideas and methods involved. Designed specifically for non-science majors.

120 Introduction to Probability and Statistics (3)
Prerequisites: the equivalent of three years of high school mathematics, including a second course in algebra. Topics include set algebra, finite probability models, sampling, binomial trials, conditional probability and expectation. It is particularly suited to students of economics, business, the biological, earth and social sciences.

130 A Short Course in Calculus (4)
Prerequisites: the equivalent of three years of high school mathematics, including a second course in algebra, and a passing score on the Mathematics Placement Examination. Elements of differential and integral calculus. Designed for students of business, economics, the biological, earth and social sciences.

150A,B Analytic Geometry and Calculus (4,4)
Prerequisites: the equivalent of four years of high school mathematics including trigonometry and a passing score on the Mathematics Placement Examination. 150A is a prerequisite for 150B. An introduction to analysis including analytic geometry, functions, limits, differentiation, the definite integral, techniques of integration, applications, infinite series, Taylor's theorem.

196 Student-to-Student Tutorials (1–3)
See page 88.

230 Elementary Probability and Statistics with Calculus (3)
Prerequisites: Math 130 or 150B. An introduction, using calculus, to the elements of probability and statistics. Designed for students of business, economics, the biological, earth and social sciences.

250 Intermediate Calculus (4)
Prerequisites: Math 150A,B or equivalent. A continuation of Math 150. Topics include functions of several variables, partial differentiation, multiple integration, linear differential equations.

281 Linear Algebra with Differential Equations (3)
Prerequisite: Math 250. An introduction to linear algebra with particular application to the theory of ordinary differential equations. Intended for students in the physical sciences, computer science and engineering.

291 Linear Algebra (3)
Prerequisite: Math 130 or 150A, the elementary notions of linear algebra: matrices, systems of linear equations, determinants, eigenvectors and eigenvalues, Euclidean vector spaces.

* Prerequisites may be waived in any mathematics course by consent of instructor.

300 Introduction to Mathematical Methods (3)
Prerequisite: Math 150B. Fundamental concepts of mathematics and an introduction to the essentials of careful mathematical reasoning. Elementary properties of sets and functions. Treatment of the methods of constructing proofs and the logic associated with these methods.

302 Modern Algebra (3)
Prerequisites: Math 281 or 291 and 300. The integers, rational numbers, real and complex numbers, polynomial domains, introduction to groups, rings, integral domains and fields.

303A,B Fundamental Concepts of Elementary Mathematics (3,3)
Prerequisites: at least one prior course in each of the fields of algebra and geometry. Three years of high school mathematics recommended. A rigorous approach to the structure and form of the mathematics that constitutes the core of the K–8 mathematics curriculum, including the real number system, number theory and equations. Designed to develop and strengthen the mathematical ability and maturity of the prospective elementary and junior high school teacher.

304 Mathematical Logic (3)
Prerequisite: Math 150B. An introductory course in the elements of mathematical logic.

305 Elements of Set Theory (3)
Prerequisites: Math 250 and 281 or 291. Operations on sets; functions; cardinals and ordinals; ordering, well ordering; axiom of choice; transfinite numbers.

306 Vector and Tensor Analysis (3)
Prerequisites: Math 250 and 281 or 291. Analysis of vector fields; Green's, Gauss' and Stokes' theorems. Introduction to tensor analysis. Applications to geometry, mechanics and electromagnetism.

308 Introduction to Applied Mathematics (3)
Prerequisite: Math 250 and 281 or 291. Introductory topics in applied mathematics including complex algebra and analysis, orthogonal functions. Fourier series, partial differential equations, and Laplace transforms.

310 Ordinary Differential Equations (3)
Prerequisite: Math 250 and 281 or 291. Theory and methods of solutions for ordinary differential equations and an introduction to existence theorems.

311 Elementary Problem Solving (3)
Prerequisite: Math 303A; 303B recommended. Analysis of problem solving techniques using content from algebra, probability, number theory and other areas having applications to the K–8 mathematics curriculum. Designed for students planning to teach at presecondary levels.

312 Elementary Concepts of Geometry (3)
Prerequisite: Math 303A. A combination of axiomatic and intuitive approaches to geometry, including spatial relations, systems of measure, topological notions, and other geometrical concepts having applications to the K–8 mathematics curriculum. Designed for students planning to teach at presecondary levels.

315 Euclidean Geometry (3)
Prerequisite: Math 250. Selected topics in advanced Euclidean geometry such as convexity, transformation theory and *n*-dimensional Euclidean space.

320 Projective Geometry (3)
Prerequisite: Math 281 of 291. Homogeneous coordinates, projective group, cross-ratio, duality, point and line conics.

321 Problem Solving: Algebra (3)
Prerequisite: Math 300. Critical analysis of problem solving, proofs and logical structure in algebra. Topics to be selected from new and emerging content in the mathematics curriculum in the secondary schools.

322 Problem Solving: Geometry (3)
Prerequisite: Math 300. Critical analysis of problem solving, proofs and logical structure in geometry. Topics to be selected from new and emerging content in the mathematics curriculum in the secondary schools.

330 Number Theory (3)
Prerequisite: Math 250 or 291, 300. Divisibility, congruences, prime number theory, Diophantine problems.

335 Mathematical Probability (3)
Prerequisite: Math 250. An introductory course in probability theory and its applications, based on use of the calculus.

340 Numerical Analysis (3)
Prerequisites: Math 250 and 281 or 291, and a knowledge of computer coding. Approximate numerical solutions of systems of linear and nonlinear equations, interpolation theory, numerical differentiation and integration, numerical solution of ordinary differential equations. Computer coding of numerical methods.

350A,B Advanced Calculus (3,3)
Prerequisites: Math 250 and 281 or 291. 350A is a prerequisite for 350B. Designed to introduce the student to rigorous proofs in analysis. Topics include continuity, differentiation and integration of functions of several variables, improper integrals, sequences and infinite series.

370 Mathematical Model Building (3)
Prerequisites: Math 250 and 281 or 291, or consent of instructor. An introduction to the theory of mathematical models and their applications in the biological, physical and social sciences. Discrete and continuous models will be studied. Students will complete a project suitable to their background and interest.

380 History of Mathematics (3)
Prerequisite: Math 300. The history of mathematics by a problem solving approach.

407 Abstract Algebra (3)
Prerequisite: Math 302. Sets, mappings, groups, rings, modules, fields, homomorphisms, advanced topics in vector spaces and theory of linear transformations, matrices, algebras, ideals, field theory, Galois theory.

412 Complex Analysis (3)
Prerequisite: Math 350A. Complex differntiation and integration, Cauchy's theorem and integral formulas, maximum modulus theorem, harmonic functions, Laurent series, analytic continuation, entire and meromorphic functions, conformal transformations and special functions.

414 Topology (3)
Prerequisite: Math 350A. An introductory course in point set and algebraic topology.

430 Partial Differential Equations (3)
Prerequisite: Math 350B. An introduction to first and second order partial differential equations, their classification and analyses of elliptic, hyperbolic and parabolic equations.

431 Methods of Applied Mathematics (3)
Prerequisite: Math 350A. Selected topics from partial differential equations of physics. Fourier series, orthogonal functions, integral transforms and the calculus of variation.

435 Mathematical Statistics (3)
Prerequisite: Math 335 or Engineering 423. An introductory course in statistical theory and its applications, based on the use of calculus.

438 Introduction to Stochastic Processes (3)
Prerequisite: Math 335. An introduction to stochastic processes including Markov chains, the Poisson Process, the Wiener Process and some of their generalizations. Applications to birth and death processes and queuing theory.

440 Advanced Numerical Analysis (3)
Prerequisite: Math 340. Approximate numerical solution of partial differential equations and boundary value problems in which they are involved, using finite difference methods. Numerical computation of eigenvectors. Error analysis. Computer coding of numerical methods.

450 Real Analysis (3)
Prerequisite: Math 350B. An introduction to Lebesgue measure and integration and selected topics from real analysis.

496 Student-to-Student Tutorials (1–3)
See page 88.

499 Independent Study (1)
Prerequisite: consent of instructor. Study of some special topic in mathematics, selected in consultation with the instructor and carried out under his supervision.

507 Topics in Abstract Algebra (3)
Prerequisite: Math 407. Modules, algebras, ideal theory, field theory, Galois theory, categories, functors, homology.

512 Complex Analysis (3)
Prerequisite: Math 412 (or 308 and 350B). Special topics in complex analysis including analytic functions of several variables, special functions, conformal mapping and Riemann surfaces.

514 Topology (3)
Prerequisite: Math 414. Advanced point set and algebraic topology.

520 Lebesgue Measure and Integration (3)
Prerequisite: Math 350B. Lebesgue measure and integration on the line and in *n*-space. Topics include the dominated convergence theorem, absolute continuity, convergence in measure and in mean, differentiation and Fubini's theorem.

531 Seminar in Applied Mathematics (3)
Prerequisite: consent of instructor. Advanced topics in applied mathematics. May be repeated for credit.

535 Applied Probability and Statistics (3)
Prerequisites: Math 335 (or Engineering 423), Math 350A (or the equivalent) and experience in computer programming. Monte Carlo methods and stochastic processes. Applications. Computer software design.

540 Topics in Numerical Analysis (3)
Prerequisites: Math 340 and Math 350A. Advanced topics in numerical analysis with emphasis on minimization of effect of computer roundoff error. Applications in differential equations, systems of algebraic equations, optimization, integration, and computer software design.

545 Approximation Theory (3)
Prerequisites: Math 340, 350A (or the equivalent) and experience in computer programming. Methods of approximating functions and their analysis. Particular estimators and classes of them. Applications. Computer software design.

560 Functional Analysis (3)
Prerequisite: Math 350B. Topics in modern functional analysis including Hilbert and Banach spaces, linear transformations and spectral theory.

580 Junior High School Mathematics from an Advanced Standpoint (3)
Prerequisites: Math 302, graduate standing, plus one year of full-time teaching in junior or senior high school mathematics. The content and methods of mathematics related to the junior high school mathematics curriculum.

581 High School Geometry from an Advanced Standpoint (3)
Prerequisites: Math 291 or consent of instructor, graduate standing, plus one year of full-time teaching in junior or senior high school mathematics. The content and methods of mathematics related to the high school geometry curriculum.

582 High School Algebra from an Advanced Standpoint (3)
Prerequisites: Math 291, 302, or consent of instructor, graduate standing, plus one year of full-time teaching in junior or senior high school mathematics. The content and methods of mathematics related to the high school algebra curriculum.

583 Precalculus High School Mathematics from an Advanced Standpoint (3)
Prerequisites: Math 350A, or consent of instructor, graduate standing, plus one year of full-time teaching in junior or senior high school mathematics. The content and methods of mathematics related to the high school precalculus curriculum (primarily trigonometry and analytic geometry).

584 Elementary Analysis from an Advanced Standpoint (3)
Prerequisites: Math 350A, or consent of instructor, graduate standing, plus one year of full-time teaching in high school mathematics. The content and methods of mathematics related to high school curriculum in analysis.

599 Independent Graduate Research (1–3)
Prerequisite: graduate standing. One unit of independent study required of each student for each regular graduate course. Also offered without being attached to any course. May be repeated for credit.

MATHEMATICS EDUCATION COURSES

442 Teaching Mathematics in Secondary School (3)
Prerequisite: appropriate education and mathematics coursework for credential. Objectives, methods, and materials including audiovisual instruction for teaching mathematics will be studied. Required, before student teaching, of students presenting majors in mathematics for the general secondary credential. (Offered fall semester only) (2 hours lecture, 2 hours activity)

449A Student Teaching in Mathematics in the Secondary School (10)
See description under Division of Teacher Education. (Offered spring semester only)
449B Student Teaching Seminar (2)
See description under Division of Teacher Education.
499 Independent Study (1–3)
Prerequisite: consent of instructor. Study of some special topic in mathematics education, selected in consultation with the instructor and carried out under his supervision. May be repeated for credit.

POST-BACCALAUREATE COURSES

308 Seminar in Mathematics Education (1–3)
Prerequisite: post-baccalaureate standing and consent of instructor. Study of selected problems in elementary or secondary education. May be repeated for credit.
309 Independent Research (1–3)
Prerequisites: post-baccalaureate standing and consent of instructor. Study of some special topic in mathematics education, selected in consultation with the instructor and carried out under his supervision. May be repeated for credit.

MEDICAL BIOLOGY

(Offered by the Department of Biological Science and the Department of Chemistry) See departmental course descriptions for the following courses:

Biological Science
- **361 Human Anatomy (4)**
- **423 Pathogenic Microbiology (4)**
- **424 Immunology (4)**
- **425 Pathobiology (4)**
- **426 General Virology (3)**
- **426L General Virology Laboratory (1)**
- **427 Medical Mycology (4)**
- **445 Mycology (4)**
- **462 Parasitology (4)**
- **468 Comparative Animal Physiology (4)**
- **469 Hematology (3)**

Chemistry
- **312 Quantitative Chemistry (4)**
- **420 Clinical Chemistry (4)**
- **421A,B General Biochemistry (3,3)**
- **422A,B General Biochemistry Laboratory (2,2)**

METEOROLOGY

(Offered by the Department of Earth Science and the Department of Geography)
See departmental descriptions for the following courses:

Earth Science
- **210 Introduction to Meteorology (3)**
- **340 General Meteorology (3)**
- **440 Dynamic and Physical Meteorology (3)**

Geography
- **323 Weather and Climate (3)**
- **423 Physical Climatology (3)**

OCEANOGRAPHY

(Offered by the Department of Biological Science, the Department of Earth Science and the Department of Geography)
See department descriptions for the following courses:

Biological Science
- **319 Marine Organisms and Their Environment (3)**
- **319L Marine Organisms and Their Environment Laboratory (1)**
- **419 Marine Ecology (3)**
- **419L Marine Ecology Lab (1)**
- **420 Biology of Marine Plankton (4)**
- **421 Biology of Marine Nekton (4)**
- **446 Phycology (4)**
- **461 Invertebrate Zoology (4)**
- **475 Ichthyology (4)**
- **518 Seminar in Marine Science (3)**

Earth Science
- **333 Oceanography (3)**
- **431 Physical Oceanography (3)**
- **432 Marine Geology (3)**

Geography
- **426 Man and the Coastal Environment (3)**

PHYSICAL SCIENCE

(Offered by the Departments of Chemistry and Physics)

100 Man and His Physical Environment (4)

Designed for non-science majors. Traced are some of man's scientific activities which have resulted in major modification of his environment. Key elements will be examined with a view toward predicting trends and suggesting alternatives. Topics include: transportation; energy conversion; food production; population; waste disposal; and chemical warfare. Emphasis on those problems which threaten man's survival.

104 Science and Public Policy (1)

The mission of science. Cultural vs. practical science. Comparative and ideal studies of science management. Related problems of technological compulsion, injection of expertise, demystification, representation of the public interest, overquantification, reliability of expertise. International science. Selected specific issues: nuclear energy, power, military uses, priorities, consumerism.

DEPARTMENT OF PHYSICS

FACULTY

Louis Shen
Department Chair

Raymond Adams, Stephen Bakanowski, Kurt Bengtson, Harvey Blend, Edward Cooperman, Ronald Crowley, Roger Dittman, Fred Johnson, Roger Nanes, Mark Shapiro, Dorothy Woolum

The Physics Department has a strong interest in the student's career. Maximum flexibility is built into the curriculum so that a student may design, with the aid of faculty advising, an individual study plan that is best suited for the student's career objectives. A formal plan of study must be filed prior to entering upper division coursework. Informal faculty/student relationship is encouraged to afford students maximum learning opportunities in non-classroom situations. A 9 a.m. to 4 p.m. daily tutorial session manned by faculty is in operation, allowing students access to all faculty for aid in course material and problem solving, as well as advising. Active participation of students in faculty research is encouraged, affording them unique opportunities to have "hands-on" experience in research in the frontiers of physics. Students also have direct input in course offerings. New courses are generated as demands arise.

BACHELOR OF ARTS IN PHYSICS

To qualify for the Bachelor of Arts in Physics, students must have a C average in all courses required for the major, including those in mathematics and related sciences. No credit toward the major will be allowed for major courses in which a grade of D is received.

Proficiency in one foreign language (Russian, German or French) including the ability to read scientific articles, is recommended.

Lower division

	Units
General chemistry (Chem 101A,B)	10
Mathematics (Math 150A,B and 250)	12
Fundamental Physics (Physics 225A,B,C,D and 226B,C)	15
Total	37

Upper division

The following core courses:

Physics 431A Electricity and Magnetism	3
Physics 441 Analytical Mechanics	3
Physics 451A Modern Physics	3
Physics 480 Methods of Experimental Physics	3
Physics 490 Senior Seminar	1
At least 12 additional upper division units in physics, selected in consultation with student's academic adviser with approval by both adviser and department chair	12
Total	25

Other requirements

In addition, the physics major must select a minimum of 16 additional upper division units from this or other departments.

Students are encouraged to consider taking additional upper-division mathematics courses.

Each physics major must file a plan of study with the Physics Department as early as possible but no later than the first semester of the student's junior year. This plan reflecting the student's needs will be worked out with and approved by the faculty adviser and the department chair.

MINOR IN PHYSICS

A minimum of 21 units of physics are required for a minor. These shall include 12 units of lower division physics (or equivalent as determined by the Department of Physics), and a minimum of nine units of upper division physics, including a minimum of three units of experimental physics.

Suggested Eight Semester Program Leading to a B.A. in Physics*

Semester 1. Freshman	*Units*
Physics 225A, 226 Fundamental Physics	4
Math 150A Analytic Geometry and Calculus	4
Semester 2. Freshman	
Physics 225B, 226B Fundamental Physics	4
Math 150B Analytic Geometry and Calculus	4
Semester 3. Sophomore	
Physics 225C, 226C Fundamental Physics	4
Math 250 Intermediate Calculus	4
Chem 101A General Chemistry	5
Semester 4. Sophomore	
Physics 225D Fundamental Physics	3
Math 281 LInear Algebra and Differential Equations (recommended but not required)	3
Chem 101B General Chemistry	5
Semester 5. Junior	
Physics 441 Analytical Mechanics	3
Physics 480 Methods of Experimental Physics	3
Physics Plan of Study Electives	3
Semester 6. Junior	
Physics 451A Modern Physics	3
Physics 431A Electricity and Magnetism	3
Physics plan-of-study elective	3
Semester 7. Senior	
Physics 490 Senior Seminar	0.5
Physics plan-of-study elective	3–9

* Suggested general education courses: English composition and/or world literature, Hist 170A, United States Since 1877 Poly Sci 100, American Government (these meet state requirements); Bio Sci 102, Crisis Biology, English 301, Advanced Composition, and Phil 210, Logic.

Semester 8. Senior

Physics 490 Senior Seminar	0.5
Physics plan-of-study elective	3–9

GRADUATE WORK IN PHYSICS

A graduate student may take up to 18 units of credit at Cal State Fullerton. The remaining 12 units required may be taken at Cal State Long Beach, for a Master's Degree in Physics, offered by Cal State Long Beach.

PHYSICS COURSES †

100 Man and His Physical Environment (4)
(See course description under Physical Science 100)

101 Freshman Seminar (1)
Offered on a credit-no credit basis only. Open to all interested persons in the academic community including both those in science and those not in science. Presentations on the type of work that is being done by physicists throughout the world. Approximately 15 seminar talks presented by well-known persons from the field of a physics or a closely related field.

102 The Environmental Effects of Human Recreational Activities (1)
Prerequisite: Physical Science 100. The impact of man's recreational activities on the physical environment. High energy activities such as car races, motorhome use, football games, will be examined as well as low energy activity such as bicycling, hiking, chess.

105 Fads and Fallacies in the Name of Science (1)
Pseudoscientific theories and practices. Astrology, UFO's, the practice of cryonics, food fads, etc., will be examined to show the fundamental differences between science and pseudoscience.

106 Principles of Air Pollution (1)
The causes of smog formation. Alternatives which may improve the air we live in. Inversion, photochemical cycle, greenhouse effect, etc. Legislative and scientific efforts to control air pollution.

107 Nuclear Energy and Its Impact on Society (1)
Prerequisite: high school algebra. The physics of nuclear fission and the societal impact of a nuclear power economy.

108 Adventures in Exploring the Universe (1)
Armchair travels through the solar system, to the planets, comets, moons of Jupiter, the interior of stars and trips to other galaxies and exotic places like quasars, pulsars and cepheid variables.

109 Evolution of the Universe (1)
The origin of the solar system leading up to the origin of life on planet earth. The evolutionary aspects and conditions leading to life in the universe.

175 Applied Physics I (1)
How to use mathematics in solving physics problems; a short review of those parts of geometry, algebra, trigonometry commonly used in the beginning physics courses, Physics 225A and 211A, introduction to use of calculus.

211A,B Elementary Physics (3,3)
Corequisite: Math 130 or 150A or equivalent. Must take math placement examination. Elementary physics covers mechanics and thermodynamics in the first semester, and electricity and magnetism, wave motion and optics in the second semester. Illustrative material from biology and medicine will be included (3 hours lecture)

212A,B Elementary Physics (1,1)
Laboratory for 211A,B. Concurrent enrollment in 211A,B lecture required. (3 hours laboratory)

225A Fundamental Physics: Mechanics (4)
Corequisite: Math 150A. Must take math placement examination. Classical physics, including Newtonian mechanics, linear and circular motion, energy, momentum, systems of particles, and rigid body motion. (3 hours lecture, 3 hours laboratory per week)

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† For all courses, prerequisites may be waived by the instructor of the course if he is satisfied that the student is qualified to undertake the course. A grade of C or better is required for all prerequisite courses.

225B Fundamental Physics: Electricity and Magnetism (3)

Prerequisite: Physics 225A or equivalent; concurrent enrollment in Physics 226B required. Corequisite: Math 150B. Electrostatics, electric potential, Poisson's and Laplace's equations, capacitance, dielectrics and boundary value problems, electrical circuits, resistance, emf, magnetism and magnetic materials, and introduction to Maxwell's equations.

225C Fundamental Physics: Modern Physics (3)

Prerequisite: Physics 225B or equivalent. Concurrent enrollment in Physics 226C laboratory required. Geometrical and physical optics, wave phenomena; the historical development of quantum physics, including the photoelectric effect, line spectra and the Bohr atom; the wave nature of matter, Schroedinger's equation and solutions; the Uncertainty Principle, special theory of relativity.

225D Fundamental Physics: Classical Thermodynamics (3)

Prerequisite: Physics 225C or equivalent. Fundamental concepts of temperature, work, internal energy, heat, reversibility, and entropy; the laws of thermodynamics; physical, chemical and engineering applications.

NOTE: For Physics 225A,B,C,D. Prerequisites may be waived by consent of the department chair and/or instructor.

226B,C Fundamental Physics: Laboratory (1,1)

Laboratory for Physics 225B,C. Concurrent enrollment in the corresponding 225B,C lecture required (3 hours laboratory)

290 Special Fundamental Lab (1)

Designed as a separate laboratory portion of Physics 225A. By consent of Department Chair only. (3 hours/week in lab)

300 Introduction to Astronomy (4)

Prerequisite: high school algebra. Includes celestial motion, a study of the solar system, galactic structure, theories of the origin of the universe and the solar system with emphasis on evolution, leading to precursors of life-forming molecules. (3 hours lecture, 1 hours of activity, field trips to planetariums and/or observatories and observing sessions)

311 Introduction to Molecular Biophysics (3)

Prerequisites: biol 101, Math 150A,B or consent of instructor, and Physics 211A,B. An introduction to the properties of biological systems from a molecular viewpoint. Emphasis on determination of macromolecular size and shape and the relation of such information to the function of biological systems.

312 Elementary Modern Physics (3)

Prerequisite: Physics 211A,B or consent of instructor. Not open to physics majors. Basic theories of post-1900 physics, relativity and quantum mechanics. Applications to solid state physics, nuclear physics and elementary particle physics may be included.

313 Elementary Modern Physics Laboratory (1)

Prerequisite: Physics 211A,B. Not open to physics majors. Concurrent enrollment in 312 required. (3 hours laboratory per week)

375 Applied Physics II (1)

A supplement for Physics 431, 441 to develop the analytical methods and techniques needed for physics majors.

384 Philosophy of Natural Sciences (3)

(Same as Philosophy 384)

405 Acoustics (4)

Course is designed expressly for non-science majors and a major portion of the material covered is oriented toward applications in music, psychology and linguistics. (2 hours lecture, 1 hour conference, 3 hours laboratory)

410 Introduction to Mathemetical Physics (3)

Prerequisite: Physics 431A and 441. The ordinary and partial differential equations of physics. Vector calculus, linear algebra, calculus of variations, Fourier series and integral transforms with emphasis on problems in physics.

411 Theory of Wave Motion (3)

Prerequisites: Physics 225 series sequence, Math 150B. The properties of wave motion—production, propagation, refraction, diffraction, interference and transmission of waves—as applied to mechanics, electromagnetism and quantum mechanics.

414 Physics of the Solar System (3)

Prerequisites: Math 250, 150A,B and Physics 225A,B,C; Physics 225D recommended. Solar system physics, including physical principles underlying current experiments in planetary science and

210 Q 5 315

space physics. Topics: solar physics; planetary dynamics; experimental probes of planetary surfaces, interiors and atmospheres; physical constraints on theories of the solar system origin.

415 Astrophysics (3)

Prerequisites: Math 150A,B and Math 250, Physics 225A,B,C; Physics 225D recommended. Topics include: study of star formation, the interstellar medium, astro-organic synthesis; formation of molecules and solar system, pulsars, Novas, variable stars and magnetic stars. Recent astronomical observations will be discussed in the light of modern theoretical physical techniques and models.

416 Thermal and Statistical Physics (3)

Prerequisites: Physics 225 series sequence. An intermediate presentation of the disciplines of thermodynamics, statistical mechanics and kinetic theory (and their applications) with emphasis placed on their unifying microscopic foundation.

431A,B Electromagnetic Theory (3,3)

Prerequisites: Physics 225 sequence, Math 250. Vector analysis, electrostatics, dielectrics, special relativity, magnetostatics, magnetic materials and their properties, Maxwell's equations and their application to plane-wave problems (free space, wave guides, dielectric boundaries), dipole and quadrupole radiation.

441 Analytical Mechanics (3)

Prerequisites: Physics 225 series sequence, Math 250. Principles of Newtonian mechanics applied to the statistics and dynamics of particles and rigid bodies. Introduction to Lagrangian and Hamiltonian equations.

451A,B Modern Physics (3,3)

Prerequisites: Physics 225C and Math 250, or consent of instructor. A survey of the principal modern physical theories and their experimental foundations. **A**—Basic relativity theory, atomic theory of matter and an introduction to quantum mechanics. **B**—Introduction to solid state, nuclear and particle physics.

453 Nuclear Physics (3)

Prerequisites: Physics 225 series sequence, Physics 451A, Math 250. Properties of nuclei, radioactivity, elementary particles, nuclear reactions. Introductory discussion of theories of nuclear structure and nuclear processes.

454 Introduction to the Solid State of Matter (3)

Prerequisite: Phy 451A, differential equations. An introduction to the physical properties of matter in the solid state, as explained by atomic theory. Crystal structure, thermal, electric and magnetic properties of metals, semiconductors, band theory and solid state devices.

455 Introduction to Quantum Physics (3)

Prerequisites: Physics 431A, 441, differential equations. An introduction to the concepts and theory of quantum physics. Early quantum theories, the Schroedinger equation, eigen-value equations, operators, commutation properties, applications to simple quantum systems, angular momentum.

465 Gravitation (3)

Prerequisites: Vector analysis and simple partial-differential equations. Designed to develop the applications of modern differential geometry to Einstein's geometric framework for physics. Included are applications to stars, cosmology, Schwartzchild geometry, gravitational collapse, gavitational waves and investigations of the experiemental tests of various altenative theories of gravity.

471 Electronic Circuit Theory (3)

Prerequisites: Physics 225 series sequence, Math 250. Operating characteristics of transistors and semiconductor diodes. Linear circuit theory for alternating currents and for transient currents. Introduction to switching and pulse circuits. Digital electronics.

476 Atomic Structure (3)

Prerequisite: Physics 455. Theory of atomic structure, interaction of radiation with matter and perturbation theory. Angular momentum and coupling schemes.

480 Methods of Experimental Physics (3)

Prerequisite: Physics 225B or consent of instructor. An introduction to, and survey of the experimental techniques of laboratory physics. Topics include: the interpretation and analysis of data, experiment planning, calibration of equipment. Selected experiments from the field of electronics, optics, vacuum technology, nuclear physics and atomic physics.

481 Experimental Physics (2)
Prerequisites: Physics 225 A,B,C. Selected experiments in electrical measurements and electronics, with emphasis on state of the art electronic devices and circuits. (6 hours laboratory)

482 Experimental Physics (2)
Prerequisites: Selected experiments in solid state, microwaves, accoustics and spectroscopy. (6 hours laboratory)

483 Experimental Physics (2)
Prerequisites: Physics 225 A,B,C. Selected experiments in atomic and nuclear physics. (6 hours laboratory)

484 Experimental Physics (2)
Prerequisite: Physics 225 A,B,C. Selected experiments in classical and modern physics (6 hours laboratory)

490 Senior Seminar (1–3)
Prerequisite: consent of instructor. Topics in recent developments in physics not ordinarily covered in organized courses. May be repeated for credit. Open to upper division and graduate students in physics and related areas.

495 Internship (1)
Prerequisites: upper division standing in physics and consent of the instructor. Professional physics work in industry or government, chosen to give the student an in-depth experience. A written report is required. May be repeated once for credit.

496 Student-to-Student Tutorials (1–3)
A formal way to encourage students to learn through teaching, increase mastery of particular subject matters, provide opportunities to develop awareness of teaching problems and competence in teaching techniques. See page 88.

499 Independent Study (1–3)
Prerequisites: approval of study plan by department chair and instructor. Study of some selected topic in physics, selected in consultation with instructor and carried out under his supervision. May be repeated for credit to a maximum of six units.

510 Analytical Mechanics (4)
Prerequisite: mathematics through partial differential equations. A thorough theoretical treatment of classical mechanics including the general principles of work and energy, the principle of least action, Lagrange and Hamiltonian equations, the dynamics of rigid bodies, and related topics.

520 Statistical Physics (3)
Prerequisite: mathematics through partial differential equations. Fundamental concepts of probability and statistics; random walk; equilibrium; transport theory; ensembles; constraints; irreversibility; canonical distributions; classical and quantum statistics. Applications to fields such as temperature, conductivity, radioactivity, thermionic emission, solutions, reactions, fluctuations, random noise and plasmas.

540A,B Classical Electrodynamics (4,3)
Prerequisite: Mathematics through partial differential equations. **A**—Boundary value problems in electrostatics and magnetostatics; multipole expansions; dielectrics and macroscopic media; Maxwell's equations and conservation laws; wave guides and resonators. **B**—Simple radiating systems; electromagnetic potentials; multipole radiations; classical relativistic electrodynamics; radiation from moving charges.

550A,B Quantum Physics (4,3)
Prerequisite: mathematics through partial differential equations. The quantum mechanical treatment of piecewise continuous potentials, the linear harmonic oscillator, central forces and angular momentum and the hydrogen atom; representation theory, the WKB approximation, scattering, the Born approximation, quantum dynamics, spin perturbation theory, symmetry principles, identical particles.

560A,B Methods of Theoretical Physics (4,3)
Prerequisite: Math 250. A study of selected applications of mathematics to physical theory and to engineering. Applications are selected from ordinary and partial differntial equations, integral equations, integral transforms, series expansions of functions, calculus of variations, matrix theory, tensor analysis, group theory, complex variable theory and numerical analysis.

570 Solid State Physics (3)
Prerequisites: Physics 562 and 540A. Crystalographic groups; lattice vibrations, magnetic phenomena, energy band theory, with applications to the electrical and optical properties of solid and superconducting media.

598 Thesis (1–6)
Planning, preparation and completion of an acceptable thesis in partial fulfillment of the requirements for the master's degree. Credit to be obtained only upon formal submission of thesis.

599 Independent Graduate Research (1–3)
Prerequisite: written approval of study plan by department committee and by instructor. Open only to graduate students and only with consent of a faculty member. May be repeated for credit.

DEPARTMENT OF SCIENCE EDUCATION

FACULTY
Francis Collea
Department Chair
Gaylen Carlson, Lawrence Przekop, H. Eric Streitberger, Barry Thomas, George Turner, Charles Williams

The Department of Science Education offers two programs in the general science area: environmental education and science education. Degrees and curricular offerings in each area are described below.

PROGRAM IN ENVIRONMENTAL EDUCATION

In recognition of the need for education in nature interpretation and conservation the Department of Science Education is developing coursework in these disciplines. Much of the coursework for these areas will take place at the nearby Tucker Wildlife Sanctuary. This sanctuary has been designated as a center for research and nature interpretation. In addition to research and coursework, the sanctuary will provide a continuing public service to the community through its daily programs in nature interpretation. This service is provided by resident professor-naturalists and student-naturalists in training at the facility. School groups as well as adults are invited to attend the regularly scheduled programs. The following course numbers are Environmental Courses: 190, 350, 355, 454, 460, 479A,B, 525, 570.

MASTER OF SCIENCE IN ENVIRONMENTAL STUDIES—ENVIRONMENTAL EDUCATION EMPHASIS

The Environmental Education Emphasis of the M.S. in Environmental Studies is based on the need to provide a background in nature interpretation that will enable the student to pursue a career as a park naturalist, environmental consultant for city, school and public organizations, and as a teacher specialist in environmental education and ecology. For further information, see environmental studies program.

PROGRAMS IN SCIENCE EDUCATION

The Department of Science Education prepares students to teach science at the elementary and secondary levels, provides guidance for experienced teachers in the study and use of educational practices developed for the teaching of sciences and helps teachers develop original ideas in their areas of specialization.

The offerings of this department include basic professional training courses required for teacher certification, advanced coursework in science education, and certain academic content offerings designed especially for teacher preparation.

REQUIRED COURSEWORK FOR TEACHING CREDENTIALS

The following courses offered by the Department of Science Education are required of candidates for teaching credentials in science.

SINGLE SUBJECT CREDENTIAL CANDIDATES-LIFE SCIENCES AND PHYSICAL SCIENCES

Sci Ed 312 Processes of Science (4)
Sci Ed 442 Teaching Science in the Secondary School (3)
Sci Ed 449A Student Teaching in Science in the Secondary School (10)
Sci Ed 449B Student Teaching Seminar (2)

COURSEWORK THAT WILL MEET GENERAL EDUCATION REQUIREMENTS FOR PROSPECTIVE ELEMENTARY TEACHERS

Natural Sciences Minimum: nine units
Sci Ed 103 Physical Science for the Non-Science Major (3)
Sci Ed 104 Earth-Space Science for the Non-Science Major (3)
Sci Ed 105 Biological Science for the Non-Science Major (3)

Sci Ed 350 Field Biology and Conservation (3)

COURSES APPROVED FOR THE LIBERAL STUDIES CREDENTIAL WAIVER PROGRAM AND OTHER MAJORS

In addition to the above general education requirements, selections from the following courses may be used for the individualized program to meet degree requirements for the Liberal Studies major.

Sci Ed 103 Physical Science for the Non-Science Major (3)
Sci Ed 104 Earth-Space Science for the Non-Science Major (3)
Sci Ed 105 Biological Science for the Non-Science Major (3)
Sci Ed 310 Elementary Experimental Science (3)
Sci Ed 350 Field Biology and Conservation (3)
Sci Ed 453 Life Science Concepts (3)

SCIENCE EDUCATION COURSES

103 Physical Science for the Non-Science Major (3) (Formerly 100A Science for the Nonmajor—A Laboratory Approach)

Prerequisites: None. A general education course in physical science limited to prospective teachers. Basic concepts derived from specially designed laboratory activities, discussions and lectures. (2 hours lecture, 3 hours laboratory)

104 Earth-Space Science for the Non-Science Major (3) (Formerly 100B Science for the Nonmajor—a Laboratory Approach)

Prerequisites: None. A general education course in earth and space science limited to prospective teachers. Basic concepts derived from specially designed laboratory activities, discussions, lectures, and field trips. (2 hours lecture, 3 hours laboratory)

105 Biological Science for the Non-Science Major (3) (Formerly 100C Science for the Nonmajor—A Laboratory Approach)

Prerequisite: None. A general education course in biological science limited to prospective teachers. Basic concepts derived from specially designed laboratory activities, discussions, lectures, and field trips. (2 hours lecture, 3 hours laboratory)

110 Science: An Inquiry Approach (1)

Selected laboratory experience in the physical sciences is used in generating information for understanding of basic science.

190 Wildlife of the Santa Ana Mountains (1)

A field course in method used in explaining the distribution and protective features of native wildlife in the Santa Ana Mountains. Three evening lectures and one weekend field trip for six weeks. Students should have camping gear.

310 Elementary Experimental Science (3)

Prerequisite: completion of general education natural science requirements or consent of instructor. A laboratory centered course in the physical sciences for prospective elementary schoolteachers. Emphasis on such skills as observing, classifying, recognizing space-time relations, measuring, inferring, formulating hypotheses, controlling variables and interpreting data. (2 hours lecture, 2 hours activity)

312 Processes of Science (4)

Prerequisites: 15 units of science coursework including biological and physical sciences. Methodologies, logical procedures and explanatory systems that characterize the various natural sciences will be compared and contrasted. The role of the science educator as an interpreter and practitioner of these scientific modes of inquiry will be studied and practiced. (2 hours lecture, 4 hours activity)

350 Field Biology and Conservation (3)

Prerequisite: one year of college science or consent of instructor. A course for nonmajors primarily designed for prospective teachers to acquaint them with the plant and animal life of the region. In addition, the relationships between urban, suburban and wildlife regions will be investigated from a biological perspective. (2 hours lecture, 3 hours field work, 1 or more weekend field trip)

355 Wildlife Photography (3)

Prerequisites: a basic understanding of photography and a 35mm camera; Communications 218 recommended. A practical course in collecting and photographing native wildlife. Infrared,

ultraviolet and microscope techniques and their application to biological problems. Individual project requirement. (1 hour lecture, 4 hours activity, field trips)

434 Elementary School Science—New Curricula (3)

Prerequisite: Sci Ed 310 (or equivalent) or consent of instructor. The content, philosophy and techniques of the new curricula for elementary science courses are studied. At present the course is designed to prepare teachers in various new approaches to elementary science instruction. (2 hours lecture, 2 hours activity)

441 New Curricula in Science (3)

Prerequisite: consent of instructor. Concepts in chemistry, physics and biology as related to teaching science in inner-city schools.

442 Teaching Science in the Secondary School (3)

Prerequisite: appropriate education and science education coursework for credential. Objectives, methods, and materials including audiovisual instruction for teaching science. Required before student teaching for those who are candidates for the single subject teaching credential in either the life sciences or the physical sciences. Offered only during fall semesters.(2 hours lecture, 2 hours activity)

443 Secondary Science Education—Biology (3)

Prerequisite: Sci Ed 442 (or equivalent) or consent of instructor. The teaching of biology. Special emphasis on recent curricular developments in this area. Designed to instruct teachers in the theory, content and methodology related to biological science instruction. (2 hours lecture, 1 hour activity)

444 Secondary Science Education—Chemistry (3)

Prerequisite: Sci Ed 442 (or equivalent) or consent of instructor. The teaching of chemistry. Special emphasis on recent curricular developments in this area. Designed to instruct teachers in the theory, content and methodology related to chemistry instruction. (2 hours lecture, 2 hours activity)

446 Secondary Science Education—Earth Science (3)

Prerequisite: Sci Ed 442 (or equivalent) or consent of instructor. The teaching of earth science. Special emphasis on recent curricular developments in this area. Designed to instruct teachers in the theory, content and methodology related to earth science instruction. (2 hours lecture, 2 hours activity)

449 Teacher Assistant—Science (3)

Prerequisite: commitment to science teaching as a career. Teacher assistant experience in science classes in public schools. Teachers in these schools will be largely responsible for student guidance during their assistantship.

449A Student Teaching in Science in the Secondary School (10)

See description under Division of Teacher Education.

449B Student Teaching Seminar (2)

See description under Division of Teacher Education.

453 Life Science Concepts (3)

A laboratory centered exploration of biological principles using science processes appropriate for elementary teachers. Primarily for candidates for the multiple subjects teaching credential. (2 hours lecture, 2 hours activity)

454 Methods of Communicating Environmental Education (3)

Prerequisite: upper division standing. A course in curriculum development and administration practices relating to the operation of a nature interpretation center. Classroom techniques and new ideas in outdoor education are field tested and developed for classroom use. (3 hours lecture)

460 Applied Conservation (3)

Prerequisites: upper division standing with basic courses in biology; Geography 350 required of non-science majors. A survey of the history of conservation for application in teaching and nature interpretive professions. (2 hours lecture, 3 hours field work, 1 or more field trip)

479A,B Naturalist Internship (3,3)

Prerequisite: open to all students, any major, with consent of instructor. Supervised in-service training working at the Tucker Wildlife Sanctuary. Ideal experience for the prospective biological science teacher, communications major and other majors interested in practical nature center experience.

499 Independent Study (1–3)

Study of some special topic in science education, selected in consultation with instructor and carried out under his supervision. May be repeated for credit.

525 Environmental Conservation Seminar (3)

Prerequisites: graduate standing in the environmental studies program and/or teachers fulfilling the conservation education requirements outlined in the Milias and Stull bills (SB 1–1968; SB 243–271). Man's impact upon the environment.

570 Seminar in Elements of Nature Interpretation (3)

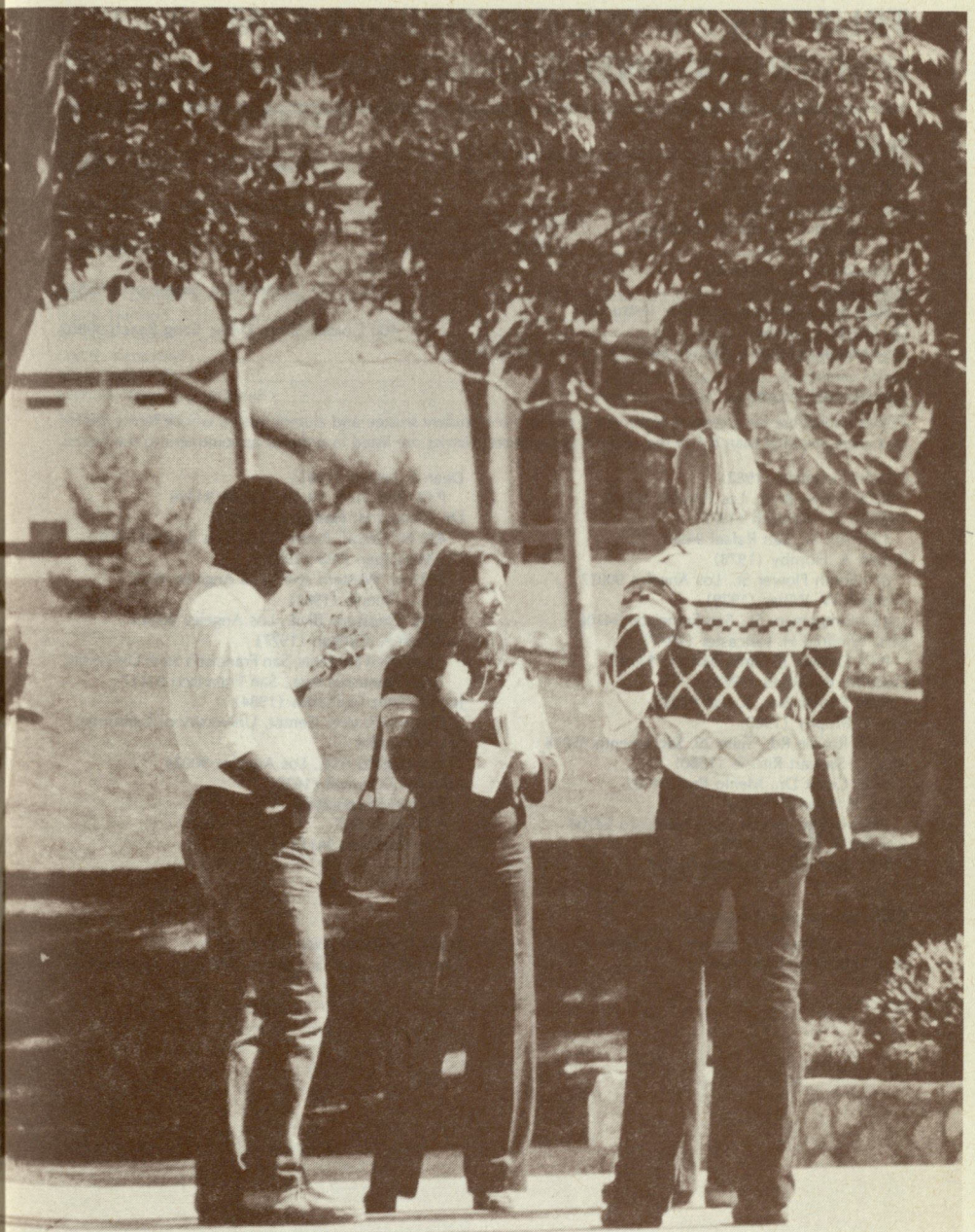
Prerequisite: B.A. degree. A course intended to prepare the teacher to fulfill the conservation education requirements outlined in the Milias and Stull bills (SB 1–1968; SB 243–1971). A review of the principles of biology, ecology and conservation relevant to classroom teaching. Includes techniques in classroom material preparation. May be repeated for credit.

POST-BACCALAUREATE COURSE

310 Seminar in Science Education (2)

Prerequisites: B.A. degree, teaching credential or consent of instructor. Designed for postgraduate science students to investigate recent developments in teaching the sciences. New courses and materials for the various subject matter fields will be researched and demonstrated. Format will depend on interests and training of participants. May be repeated for credit.

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Director of Development Services, City of Fullerton
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Lowell Joint School District: Lota Day.

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Saddleback School District: Bill Crow, L. Emshoff, Bob Johnson, Keith Osborn, Wendell Witt.

Santa Ana School District: Mr. Glassman, Miss Lee, Mrs. Randall, Mrs. Taylor.

91 9 6 375

FACULTY AND ADMINISTRATION 1976–77

(Year in parentheses indicates date of appointment as a full-time member of the faculty. Faculty on leave during the 1976–77 year are noted at the end of this listing.)

ABDELWAHED, FAROUK H. (1973), Assistant Professor of Management
L.L.B., University of Ein Shams; M.P.A., University of Southern California; Ph.D., University of California, Los Angeles

ABRASSART, RICHARD A. (1975), Lecturer in Speech Communication
A.B., M.S., University of Redlands

ADAMS, GENE M. (1973), Associate Professor of Physical Education
B.S., M.S., University of California, Los Angeles; Ph.D., University of Southern California

ADAMS, PHILLIP A. (1963), Professor of Biology
B.S., University of California, Berkeley; M.A., Ph.D., Harvard University

ADAMS, RAYMOND V. (1960), Professor of Physics
B.S., Kansas State University; Ph.D., California Institute of Technology

ALEXANDER, JAMES P. (1960), Professor of Communications
B.A., M.S., University of Southern California; Ed.D., University of California, Los Angeles

ALLEN, HOLLIS P. (1960), Professor of Education, *Emeritus*
B.A., Pomona College; M.A., Ed.D., Stanford University; LL.D., Claremont Graduate School

ALLEN, ROBERT W. (1974)+, Lecturer in Management
B.S., M.B.A., Wayne State University

AMES, DENNIS B. (1960), Professor of Mathematics, *Emeritus*
B.A., M.A., Bishop's University; Ph.D., Yale University

AMES, MICHAEL D. (1976), Associate Professor of Management
B.A., University of California, Santa Barbara; M.B.E., Ph.D., Claremont Graduate School

ANDERSEN, MARTIN P. (1965), Professor of Speech Communication, *Emeritus*
B.A., M.A., Ph.D., University of Wisconsin

ANDERSON, HENRY R. (1975), Professor of Accounting and Chair, Department of Accounting
B.A., Augustana College; M.S., Northern Illinois University; C.P.A.; Ph.D., University of Missouri

ANDRIS, RONALD G. (1974), Director, University Recreation Programs
B.S., University of Illinois; M.S., University of California, Los Angeles

APKE, THOMAS M. (1974), Assistant Professor of Management
B.S., Pennsylvania State University; J.D., Marquette University

ARANA, OSWALDO (1965), Professor of Spanish
B.A., Texas Christian University; M.A., Ph.D., University of Colorado

ARDREY, ROGER W. (1973), Associate Professor of Music
B.S., Northern Arizona University; M.M., University of Colorado; Ph.D., Catholic University of America

ARMSTRONG, CHERYL L. (1972), Assistant Professor of Afro-Ethnic Studies
B.A., Fisk University; M.S.W., University of California, Los Angeles

ARNOLD, JOSEPH H., JR. (1973), Assistant Professor of Theatre
B.A., Drury College; M.A., Ph.D., University of Illinois

ASO, TAKENORI (1973), Assistant Professor of Sociology
B.S., Iowa State University; M.S., University of North Dakota

ATKIN, KENWARD L. (1974), Professor of Communications and Chair, Department of Communications
A.B., M.B.A., University of Michigan; Ph.D., Michigan State University

AUSTIN, DON D. (1963), Professor of English
B.A., M.A., University of Redlands; Ph.D., University of Washington

AXELRAD, ALLAN M. (1976), Lecturer in American Studies
B.A., M.A., University of California, Riverside; M.A., University of Pennsylvania; Ph.D., University of Pennsylvania

BADEN, NANCY T. (1969), Associate Professor of Spanish and Portuguese and Chair, Foreign Languages and Literatures Department
B.A., M.A., Ph.D., University of California, Los Angeles

BAGRASH, FRANK M. (1974), Assistant Professor of Psychology
B.A., Southern Methodist University; M.A., California State University, Northridge; Ph.D., University of California, Los Angeles

BAILEY, C. IAN (1972), Associate Professor of Physical Education
Diploma, Carnegie College of Physical Education; M.A., Colorado State College; Ph.D., University of Utah

BAILEY, DAVID T. (1969), Associate Professor of Chemistry
B.A., University of Colorado; Ph.D., Iowa State University

+ Resigned June 1977

BAILLIE, ALLAN S. (1976), Lecturer in Management
B.S.M.E., B.S.C., Ohio University; M.B.A., University of Washington
BAIRD, DAVID D. (1976), Procurement and Support Services Officer
B.S., Ohio State University; B.S., United States Merchant Marine Academy
BAKANOWSKI, STEPHEN M. +(1976), Assistant Professor of Physics
B.A., Rutgers University; Ph.D., Temple University
BAKER, A. ALBERT, JR. (1973), Associate Professor of Library Science
B.S., M.S., North Texas State University; Ph.D., University of Wisconsin; M.L.S., University of Oklahoma
BAKER, CHARLES A. (1975), Lecturer in Music
B.M., M.M., D.M.A., Eastman School of Music, University of Rochester
BAKER, DONALD R. (1972), Assistant Professor of Sociology
A.B., Occidental College; M.A., University of California, Los Angeles; Ph.D., University of California, Los Angeles
BAKER, MARTHA J. (1975), Assistant Professor of Music
B.S., Anderson College; M.M., Southern Illinois University
BAKER-KELLY, BEVERLY (1976), Associate Professor of Criminal Justice
B.A., University of Michigan; M.A., M.Ed., Columbia University; M.A., Harvard University; Ed.D., Columbia University; J.D., University of California, Berkeley
BAKKEN, GORDON M. (1969), Director of Faculty Affairs and Records; and Professor of History
B.S., M.S., Ph.D., J.D., University of Wisconsin
BALDWIN, SIDNEY (1967), Professor of Political Science
B.A., Wesleyan University; M.P.A., Ph.D., Syracuse University
BANDY, D. DALE (1972), Associate Professor of Accounting
B.S.B.A., University of Tulsa; M.B.A., University of Arkansas; C.P.A.; Ph.D., University of Texas
BANKS, DORIS H. (1967), Professor of Library Science and Director, Division of Library Science
B.S., New York State Teachers College; M.S.L.S., Syracuse University; M.P.A., University of Southern California
BANKS, KATHERINE J. (1973), Associate Director of University Activities, University Activities Center
B.A., California State University, Fullerton; M.A., Azusa Pacific College
BARATH, ROBERT M. (1974), Associate Professor of Marketing
B.B.A., Cleveland State University; D.B.A., Kent State University
BARDEN, DREW S. (1974), Lecturer in Economics
A.B., Whitman College; M.A., University of California, Riverside
BARISH, NATALIE (1966), Professor of Biology
A.B., Goucher College; M.A., Indiana University; Ph.D., Ohio State University
BARNES, BETTY J. (1972), Associate Professor of Education
B.A., Pomona College; M.A., Ph.D., Claremont Graduate School
BARNES, CAROL P. (1975), Assistant Professor of Education
A.B., University of Michigan; M.Ed., Wright State University; Ph.D., Claremont Graduate School
BARON, AILEEN G. (1973), Assistant Professor of Anthropology
Ph.B., University of Chicago; B.A., California State University, Fullerton; M.A., University of California, Riverside
BARON, ROBERT A. (1973), Assistant Professor of Art
B.A., Harpur College, State University of New York; M.A., Institute of Fine Arts, New York University
BARRETT, JEAN A. (1963), Professor of Physical Education and Chair, Physical Education Department
B.S., Cortland State Teachers College; Ed.M., Ed.D., University of Buffalo
BARRILLEAUX, WILSON J., JR. (1975), Lecturer in Dance
B.S., M.A., Sam Houston State University
BARTHELS, KATHARINE M. (1974), Assistant Professor of Physical Education
B.S., University of California, Los Angeles; M.A., University of California, Santa Barbara; Ph.D., Washington State University
BATES, MARILYN M.# (1966), Professor of Education; and Coordinator of Counseling/Psychometry/School Psychology Faculty
B.A., M.A., California State University, Long Beach, Ph.D., University of Southern California
BAYES, JOHN R. (1974), Assistant Professor of Political Science
A.B., M.P.A., Ph.D., University of California, Los Angeles
BEAUBIER, EDWARD W. (1975), Professor in Education
B.S., M.S., M.E., Ed.D., University of Southern California
BECK, WARREN A. (1961), Professor of History
B.A., M.A., Wayne University; Ph.D., Ohio State University
BECKER, ERNEST A. (1959), Director of Career Planning and Placement; and Professor of Philosophy
B.A., Amherst College; B.D., Hartford Theological Seminary; M.A., Ed.D., University of Southern California
BECKETT, RALPH L., SR. (1970), Associate Professor of Speech Communication
A.B., M.A., Ph.D., University of Southern California
BECKMAN, WALTER F. (1971), Professor of Education; and Coordinator of School Administration Faculty
B.A., Northern Illinois University; M.A., Northwestern University; Ph.D., Claremont Graduate School

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+ Resigned July 1977
Deceased January 1977

BEDELL, JOHN W. (1969), Associate Professor of Sociology and Chair, Sociology Department
A.B., Franklin and Marshall College; M.A., Ph.D., Case Western Reserve University
BEDNAR, DICK D., JR. (1973), Lecturer in Finance
B.A., M.B.A., University of Oklahoma
BELL, ARTHUR H. (1973), Associate Professor of English
B.A., Concordia College; M.A., University of Southern California; M.A., Ph.D., Harvard University
BELL, CHARLES G. (1964), Professor of Political Science
B.A., Pomona College; M.A., Ph.D., University of Southern California
BELL, TONY (1968), Associate Professor of Sociology
B.A., M.A., University of California, Santa Barbara; Ph.D., University of Texas
BELL, WILLIAM E. (1969), Professor of Marketing
B.A., M.B.A., D.B.A., Michigan State University
BELLOLI, ROBERT C. (1968), Associate Professor of Chemistry
B.S., St. Louis University; Ph.D., University of California, Berkeley
BELLOT, LELAND J. (1964), Dean, School of Humanities and Social Sciences; and Professor of History
B.A., Lamar State College; M.A., Rice Institute; Ph.D., University of Texas
BENGTSON, KURT L. (1967), Associate Professor of Physics
B.S., M.A., Wayne State University; Ph.D., University of California, Riverside
BENHAM, JOHN L., JR. (1975), Assistant Professor of Music
B.M., Northwestern College; M.A., Colorado State College; Ed.D., University of Northern Colorado
BENSIMON, LINDA A. (1970), Associate Professor of French
B.A., Kalamazoo College; M.A., Ph.D., University of California, Los Angeles
BENSON, RUSSELL V. (1965), Professor of Mathematics
B.E.E., Cornell University; M.A., Ph.D., University of Southern California; M.Div., Fuller Theological Seminary
BERFIELD, B. DAVID (1971), Associate Professor of Music
B.M., Oberlin Conservatory of Music; M.M., D.M.A., University of Southern California
BERG, DENNIS F. (1970), Associate Professor of Sociology and Chair Protem, Sociology Department
B.A., M.A., California State University, Fullerton; Ph.D., University of Southern California
BERG, JOHN L. (1976), Lecturer in Art
B.A., M.A., California State University, Fullerton
BERGNER, SUSAN CLOVER (1975), Lecturer in Art
Certificate, Society of Arts and Crafts
BHAUMIK, GORA (1972), Associate Professor of Quantitative Methods
B.E., University of Calcutta; M.S., Ph.D., University of Texas
BICKNER, MEI LIANG (1974), Associate Professor of Management
B.A., M.B.A., Ph.D., University of California, Los Angeles
BIGELOW, RALPH EMERSON (1966), Dean of Admissions and Records; and Associate Professor
B.Mus., M.Mus., University of Rochester; Ph.D., University of Southern California
BISHOP, ASHLEY L. (1976), Associate Professor of Education
B.A., M.A., San Diego State University; Ed.D., Arizona State University
BISHOP, ROGER H. (1976), Assistant Professor of Accounting
B.S., California Polytechnic State University; M.B.A., University of California, Berkeley
BLEAMASTER, LESLIE F., II (1973), Fencing Coach
B.A., California State University, Long Beach; M.S., California State University, Fullerton
BLEND, HARVEY (1963), Professor of Physics
B.S., University of Texas; M.S., Ph.D., University of California, Los Angeles
BLOOM, GARY S. (1971), Associate Professor of Quantitative Methods
A.B., Oberlin College; M.S., University of Arizona; Ph.D., University of Southern California
BLOOMBAUM, MILDRED * (1977), Lecturer in Sociology
A.B., University of California, Los Angeles; M.S.W., University of California, Berkeley; Ph.D., University of Hawaii
BOARINO, GERALD L. (1965), Professor of Spanish
B.A., M.A., Ph.D., University of California, Berkeley
BOOTH, HERBERT W. (1967), Associate Professor of Speech Communication
B.A., M.A., California State University, Los Angeles; Ph.D., University of Southern California
BOSTON, ROSEMARY (1969), Associate Professor of English
B.A., Baldwin-Wallace College; A.M., University of Pennsylvania; Ph.D., University of Washington
BOYNTON, MARYANNA C. (1970), Associate Professor of Economics
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BOYUM, KEITH O. (1972), Associate Professor of Political Science
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B.A., Ph.D., Stanford University
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BREWER, VIVIAN M. (1976), Title VII, Bilingual-Bicultural Education
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BROCKMANN, LOUIS O. (1963), Professor of Education, *Emeritus*
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BRONDI, DANIEL J. (1972), Assistant Professor of French
B.A., M.A., Indiana State University
BROWER, JONATHAN J. (1972), Associate Professor of Sociology
B.S., Ph.D., University of California, Santa Barbara; M.A., California State University, Northridge
BROWN, DANIEL A. (1972), Associate Professor of Religious Studies
S.T.B., S.T.L., Marianum, Rome; Ph.D., Catholic University
BROWN, GILES T. (1960), Dean of Graduate Studies and Professor of History
B.A., San Diego State University; M.A., University of California, Berkeley; Ph.D., Claremont Graduate School
BROWN, MICHAEL E. (1967), Associate Professor of Political Science and Coordinator, Human Services Program
B.A., California State University, Long Beach; Ph.D., University of Southern California
BROWNING, ROBERTA F. (1970), Counselor/Coordinator of the Testing Center, Counseling Center
B.A., Bucknell University; M.S., California State University, Fullerton
BRUGALETTA, JOHN J. (1970), Associate Professor of English
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BRYDEN, JOHN H. (1961), Professor of Chemistry
B.S., College of Idaho; M.S., California Institute of Technology; Ph.D., University of California, Los Angeles
BUCHMAN, EDWIN O. (1968), Associate Professor of Mathematics
B.S., California Institute of Technology; Ph.D., University of California, Los Angeles
BUCK, CHARLES W. (1964), Director of Testing and Research
B.A., Occidental College; M.A., University of Oregon; Ph.D., Columbia University
BUCK, J. VINCENT (1974), Assistant Professor of Political Science
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B.S., California State University, Long Beach; M.S., San Jose State University; Ph.D., Rice University
BUCUZZO, JOSEPH J. (1970), Associate Professor of Mathematics
B.S., M.A., University of Massachusetts; Ph.D., University of Notre Dame
BUESO, ALBERTO T. (1974), Assistant Professor in Finance
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BURK, JACK H. (1971), Associate Professor of Biology
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CALHOUN, FENTON E. (1970), Associate Professor of Communications
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CLEVELAND, PHILLIP D. (1975), Assistant Professor of Theatre
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COFFER, WILLIAM E. (1973), Associate Professor of American Indian Studies
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CONDON, MARY G. (1969), Coordinator, Educational Placement, Career Planning and Placement Center
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CONLON, PAMELA J. (1976), Lecturer in Education
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COOPERMAN, EDWARD L. (1967), Professor of Physics; and Chair, Physics Department
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COPP, CAROL M. (1965), Associate Professor of Sociology
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B.S., University of Utah; M.A., New York University; Ed. D., University of California, Los Angeles
COREY, GERALD F. (1972), Professor in the Human Services Program
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COZBY, PAUL C. (1972), Associate Professor of Psychology
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CURRIE, DOROTHY H. (1973), Associate Professor in Library Science
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B.A., M.S., California State University, Long Beach
CURRY, ROBERT L. (1972), Assistant Professor of Mathematics
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CUSICK, JAMES W. (1961), Professor of Education and Coordinator of Secondary Education
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DAVENPORT, CALVIN A. (1969), Professor of Microbiology
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DAVIS, BARBARA E. (1960), Librarian and Chair, Reader Services Department
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DAVIS, JOHN E. (1975), Lecturer in Theatre
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DAVISON, ALBERT R. (1976), Lecturer in Finance
B.S.B.A., Boston University; M.B.A., University of Hawaii

DEAR, ROGER G. (1975), Assistant Professor in Quantitative Methods
B.S.E.E., M.S.E.E., Massachusetts Institute of Technology; Ph.D., Massachusetts Institute of Technology

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de GRAAF, LAWRENCE B. (1959), Professor of History and Coordinator, Master of Arts in Social Sciences Program
B.A., Occidental College; M.A., Ph.D., University of California, Los Angeles

de LAND, PAUL N. (1975), Assistant Professor of Mathematics
B.A., Ph.D., University of California, San Diego

DENNISON, WALTER J.+ (1965), Manager of Foundation and Titan Shops, Inc.; and Associate Professor of Accounting
B.B.A., University of Miami; M.S., Columbia University; C.P.A.

DEPEW, DAVID J. (1974), Assistant Professor of Philosophy
B.A., St. Mary's College of California; M.A., University of California, San Diego

DIAZ, MODESTO M. (1970), Associate Professor of Spanish
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DIEB, RONALD K. (1969), Associate Professor of Theatre
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B.S., California State Polytechnic University, Pomona; M.A., Ph.D., University of California, Riverside

DIETZ, NAOMI G. (1960), Professor of Art
B.S., Whitworth College; M.A., Teachers College, Columbia University

DIETZER, M'LOU (1972), Associate Professor of Music
B.A., M.A., California State University, Los Angeles; D.M.A., University of Southern California

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B.B.A., The University of Texas; M.S., Texas A&M University

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B.A., University of California, Santa Barbara; M.S., University of Delaware; Ph.D., University of Southern California

DOANE, KENNETH R. (1960), Director of Institutional Research and Professor of Education
B.S., Wisconsin State College, La Crosse; M.S., Ph.D., University of Wisconsin

DOBSON, KERRIE S. (1975), Lecturer in Psychology
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DONDIS, ERNEST H. (1966), Professor of Psychology
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DONOGHUE, MILDRED R. (1962), Professor of Education
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DREW, JAMES M. (1976), Lecturer in Music
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DUBIN, STUART B.+ (1970), Associate Professor of Physics
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EBERSOLE, PETER D. (1967), Professor of Psychology
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EDMONDSON, BEN C. (1970), Professor of Quantitative Methods
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EGBERT, RUSSELL J. (1968), Professor of Mathematics
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EHMANN, GERHARD E. (1959), Professor of Education
B.A., Occidental College; M.A., Ed.D., University of California, Los Angeles
EILERS, H. PETER, III (1973), Assistant Professor of Geography
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ELENBAAS, JACK D. (1969), Associate Professor of History
B.A., Hope College; M.A., Ph.D., Wayne State University
ELLIOTT, MARGARET E. (1976), Lecturer in Physical Education
B.S., University of California, Santa Barbara; M.S., State University of New York
ELLMANN, MARY T. (1976), Lecturer in Education
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EL-SADEN, MUNIR R. (1966), Professor of Engineering
B.Sc., University of Denver; M.S., Ph.D., University of Michigan
EMRY, ROBERT A. (1973), Assistant Professor of Speech Communication and Acting Director of Academic Advisement
B.S., M.A., University of South Dakota; Ph.D., The University of Kansas
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ENGSTROM, WAYNE N. (1971), Associate Professor of Geography
B.S., M.S., Illinois State University; Ph.D., University of Wisconsin
ERMER, VIRGINIA B. (1976), Associate Professor of Political Science
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ESCAMILLA, MANUEL (1975), Assistant Professor in Education
B.A., Colorado State University; M.Ed., University of Antioch
ETUE, GEORGE E. (1963), Associate Professor of History
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EVJENTH, HENRY A. (1964), Professor of Art
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FARNUM, NICHOLAS R. (1976), Lecturer in Quantitative Methods
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FASHEH, ISSA I. (1966), Senior Assistant Librarian and Coordinator, Microforms Cataloguing Section
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B.S., University of Wisconsin; M.S., M.A., Ph.D., University of California, Los Angeles
FELDMAN, ROBERT S. (1964), Professor of History and Coordinator, Russian and East European Area Studies Program
B.S., Illinois State University; M.A., Ph.D., Indiana University
FENTON, DENIS J.+ (1972), Acting Faculty Coordinator, Library Learning Assistance and Resource Center
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FERARU, ANNE T. (1966), Professor of Political Science
B.A., Wilson College; M.A., Columbia University; Docteur de l'universite, University of Lyons
FIELDS, JAMES E. (1975), Lecturer in Communications
B.A., Seattle Pacific College; M.A., California State University, Fullerton
FIERMAN, MORTON C. (1963), Professor of Religious Studies
B.A., Case Western Reserve University; M.H.L., D.D., Hebrew Union College; M.A., Tulsa University; Ed.D., Arizona State University
FIFIELD, LILLENE H. (1976), Lecturer in Human Services
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FISCHER, HERTA D. (1967), Librarian, *Emeritus*
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FLEMING, MARY M. (1974), Assistant Professor of Accounting
B.S., M.B.A., University of California, Los Angeles; C.P.A.
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GIACUMAKIS, GEORGE JR. (1963), Professor of History; and * Director, Interdisciplinary Center
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* Beginning January 1977

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\+ Resigned spring 1977
** Resigned June 1, 1977

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+Resigned June 1, 1977

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Faculty on Full-Time Leave

1976–77

James P. Alexander; Donald B. Bright; Fred R. Colgan; Linda F. Dubin; Stuart B. Dubin; Robert J. Gauntt; Wacira Gethaiga; Raymond Hein; Wayne V. Huebner; Charlotte B. Hughes; Lionel Kalish, III; Jara A. Krivanek; John Lafky; Charles L. Medler; John F. H. Purcell; Chennareddy P. Reddy; Marvin J. Rosen; Libby O. Ruch; Howard J. Seller; Mark H. Shapiro; Jon F. Stokesbary; Frank G. Verges; Wayne D. Wanke

Fall 1976

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* Beginning September 1977

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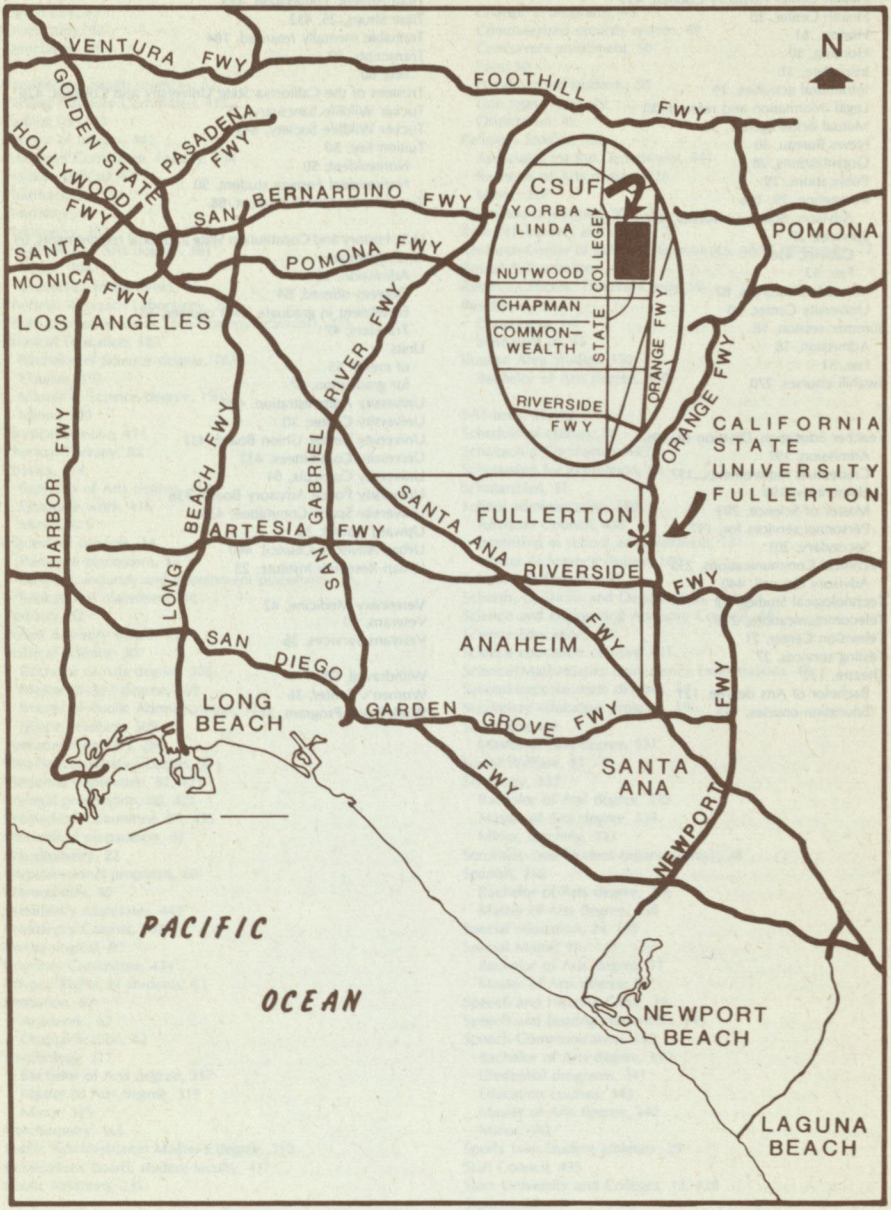
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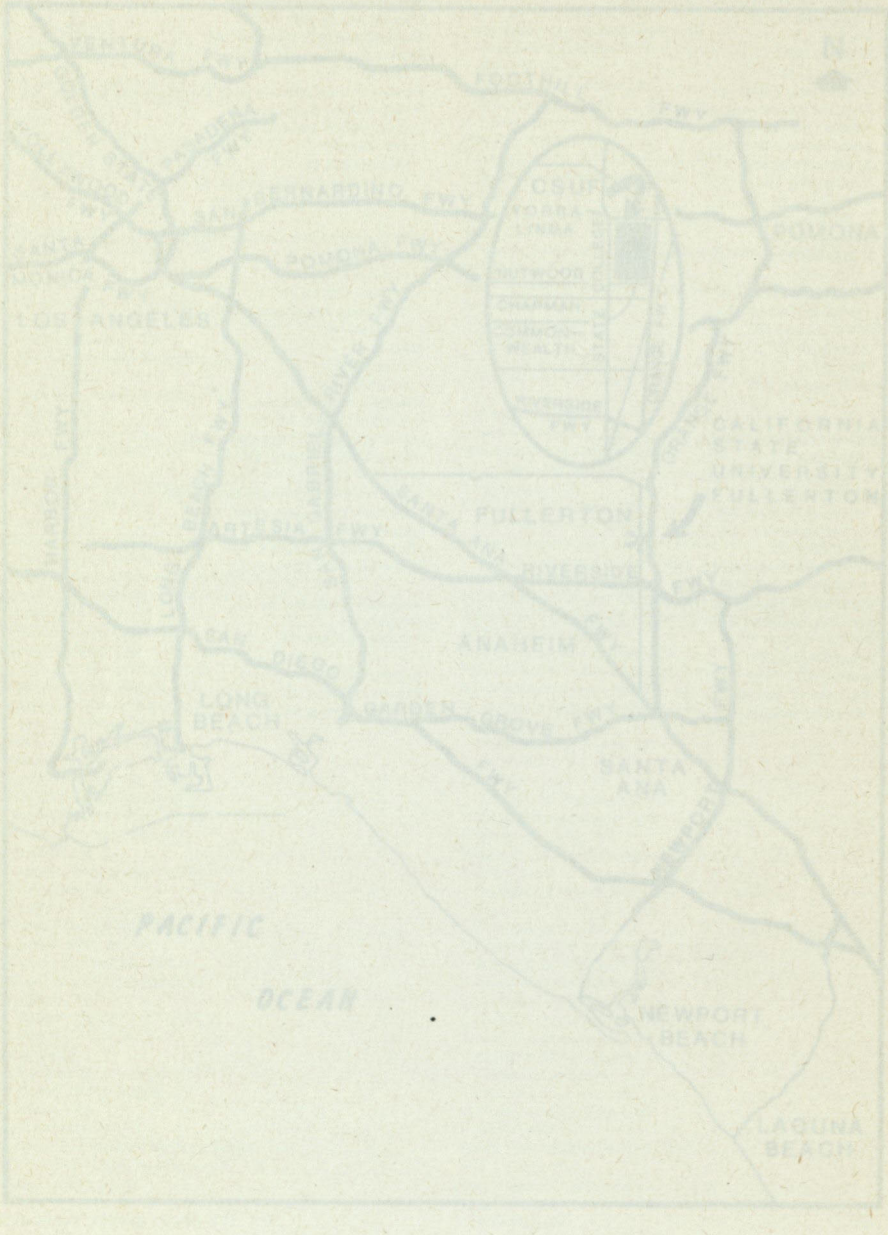
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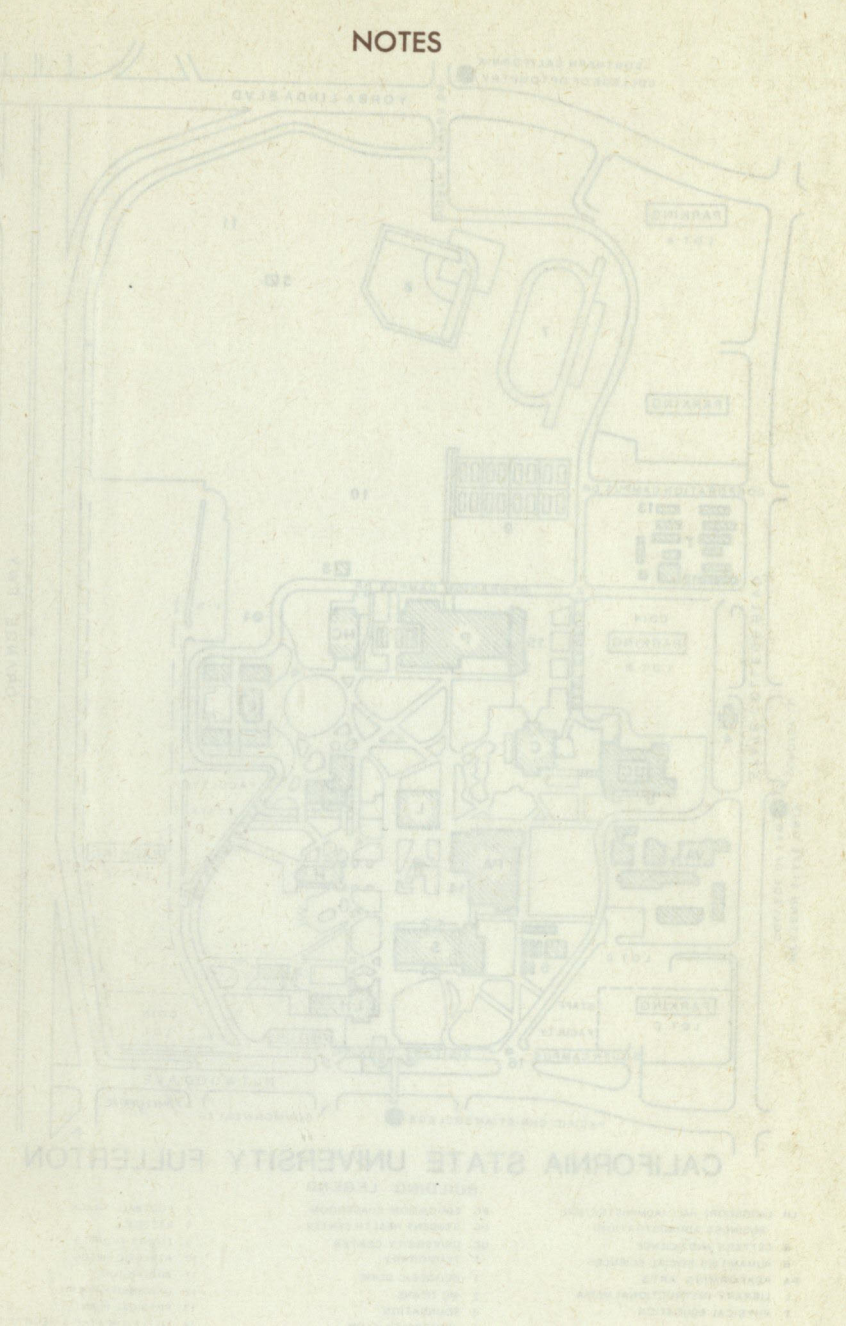
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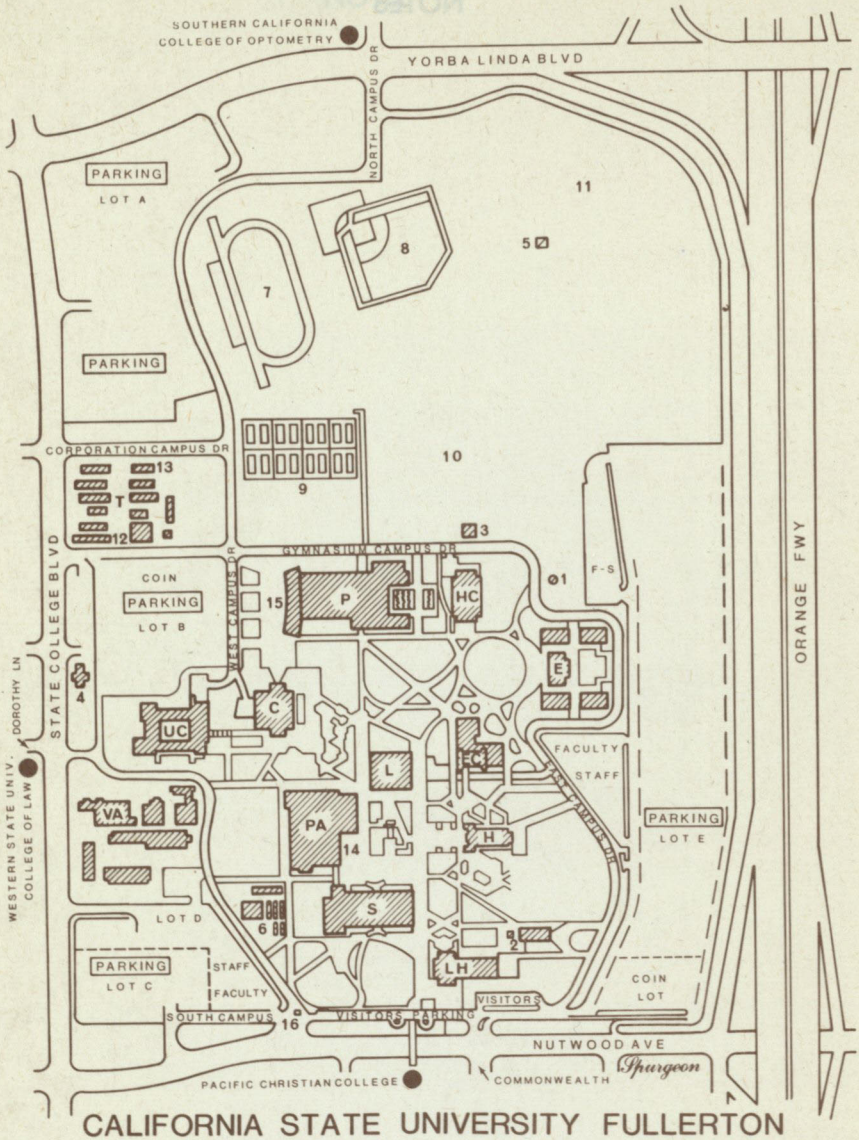
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